CALIFORNIA STRATEGIC HIGHWAY SAFETY PLAN

STRATEGIC HIGHWAY SAFETY PLAN

HSP

Creating a California Culture of Safety

2015-2019

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To be included at a later date.

Executive Summary

The Strategic Highway Safety Plan (SHSP) is a statewide, coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and severe injuries on all public roads.

The plan must be data driven, which means safety and other significant data are used to help define problems and develop solutions which focus on the 4Es of safety — engineering, enforcement, education, and emergency medical services. The SHSP also must be coordinated with other state safety plans including the Highway Safety Improvement Program (HSIP), the Highway Safety Plan (HSP), and the Commercial Vehicle Safety Plan (CVSP).

California developed its first SHSP in 2005, amended it in 2010, and in 2014 decided to update the plan. The update process involved a comprehensive outreach effort involving individual presentations to over 50 agencies and organizations; a strengths, weaknesses, opportunities and threats (SWOT) analysis; a tribal outreach effort; a review of various other state and regional transportation plans to determine alignment with the SHSP; six webinars on traffic safety topics; and two statewide summits in Northern and Southern California. This plan represents the culmination of that six month outreach effort.

California can be justifiably proud of the many accomplishments achieved by the hundreds of stakeholders who devoted their time, energy, and ideas to helping the state achieve significant reductions in traffic related deaths and severe injuries. From 2005 to 2012, California experienced a 30.4 percent reduction in fatalities and a 17.5 reduction in severe injuries. Vehicle miles traveled (VMT) remained fairly constant throughout the entire period (VMT went from 327.4 billion in 2005 to 326.5 billion in 2012). Overall the prior SHSP attained a remarkable level of achievement by completing 177 of the plan's 179 actions as of August 1, 2014. The reason is the active involvement of over 400 safety stakeholders from 170 public and private agencies and organizations who worked together to implement the plan under the direction of the SHSP Executive Leadership and Steering Committee. One of the most prominent strengths of the previous effort was the collaboration across the 4Es of safety. The SWOT analysis, however, did reveal a need to achieve more involvement from regional and local agencies.

In developing a vision, mission, and goal for the SHSP, members of the Executive Leadership and the Steering Committee felt strongly that Toward Zero Deaths (TZD) should be the ultimate aspirational goal for the plan, and that realistic and achievable steps should be set for California to move closer to zero deaths. In establishing measurable objectives for reductions in fatalities and severe injuries, a decision was made to ensure they would be something to strive toward but also attainable. A three percent per year reduction for the number and rate of fatalities was set, and 1.5 percent per year reduction was established for the number and rate of severe injuries.

California has a large number of Challenge Areas, more than most states have adopted for SHSPs.

However, several factors make the California process unique including the number of Challenge Areas in the previous plan; the large number of committed, active, and involved safety stakeholders who may not stay involved if Challenge Areas are eliminated or absorbed into other areas; and the high degree of ownership in the process. Based on those factors, the following were selected as Challenge Areas for the updated plan:

- Roadway Departure and Head-On Collisions
- Intersections, Intersections, and other Roadway Access
- Work Zones
- Alcohol and Drug Impairment
- Occupant Protection
- Speeding and Aggressive Driving
- Distracted Driving
- Driver Licensing and Competency
- Pedestrians
- Bicycling
- Young Drivers
- Aging Road users
- Motorcycles
- Commercial Vehicles
- Emergency Medical Services

In addition to these challenge areas, California will also continue to pursue several key policy directions including the following:

- Increase efforts to create a traffic safety culture;
- Improve traffic safety data; and
- Increase local, regional, and tribal involvement.

Significant efforts were also made to engage Tribal audiences, including a dedicated Tribal webinar during the series and input sessions at the Safety Summits. The core issue identified consistently by all groups is the need for increased coordination among the many disparate groups that are involved in traffic safety as related to the 111 Federally recognized tribes in California.

The SHSP update process improved the understanding of California's safety issues and focused on the steps needed to keep the State on track to reduce traffic fatalities and severe injuries. The updated plan and the accompanying action plan document provide a roadmap for effective implementation of the vision, mission, and goals. The Steering Committee and Challenge Area teams evaluated the safety data and managed the development of performance measures, strategies, and actions for each area. As the plan is implemented, these key safety stakeholders, with oversight from the Executive Leadership and Steering Committee, will supervise the implementation process by tracking implementation progress in each of the Challenge Areas; evaluating the effectiveness of strategies and actions to ensure they are contributing to decreases in fatalities and severe injuries; identifying barriers or problems to implementation; providing regular updates on SHSP-related campaigns, initiatives, training, and programs; providing guidance on future programs, activities; determining the approach to future SHSP updates; and working with the SHSP data task force to identify data needs and improvements.

In addition to the SHSP and the companion action plan document, California will develop an Evaluation Plan that will assess both process and performance. The process evaluation will examine roles, responsibilities, and process activities as well as establish a timeline for monitoring, evaluating and communicating SHSP Update performance data. On the performance side, an SHSP Evaluation Plan will be developed before implementation takes place to ensure all aspects of the SHSP implementation can be properly evaluated and tracked. The measurable objectives for the SHSP will remain the same throughout the five year life of the plan, but will be reviewed annually to see if they track with the annual Highway Safety Improvement Program (HSIP) and Highway Safety Plan (HSP) performance targets.

Executive Leadership

Members of the Executive Leadership play a vital role in ensuring the success of the Strategic Highway Safety Plan (SHSP) by providing guidance, direction, and input into the content of the plan and supporting its implementation. The Executive Leadership are California's transportation leaders. Their support and commitment to the SHSP demonstrates the importance of this plan to the entire State of California and how it will help the state continue a record of success in traffic safety.

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Region 9 Administrator, National Highway Traffic Safety Administration (NHTSA)

Steering Committee

Members of the SHSP Steering Committee provide day-to-day guidance on the SHSP to ensure this comprehensive plan is effectively and efficiently managed and implemented. Steering Committee members were an integral part of the update process, and made sure the needs and concerns of all stakeholders were addressed. These professionals have shown on-going dedication to ensuring safety on California's roadways continuously improves for all transportation users.

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ProProse

Arellano Associates

Center for Collaborative Policy

Thank You to Highway Safety Partners

The update of the California SHSP required the hard work, dedication, and input of hundreds of safety stakeholders throughout the state. These individuals devoted their time and energy to provide ideas and input into the content of the updated plan. Each of the agencies and organizations listed here works hard to make sure California's roadway system is among the safest in the country. The organizers and managers of the SHSP update process deeply appreciate the ongoing support of these individuals and look forward to working with them throughout the plan's implementation.

AAA Northern California, Nevada, and Utah

Able-Disabled Advocacy

ADEPT Driver

Airgas USA LLC

Alcohol Justice

Alhambra Police Department

Alta Planning + Design

Amador County Transportation Commission

American Medical Response (AMR)

Arellano Associates

Association of Monterey Bay Area Governments (AMBAG)

Auto Club Southern California

Axis Community Health Inc.

Bear River Band of Rohnerville Rancheria

Bike East Bay

Bike San Diego

Bike Silicon Valley

Blue Lake Rancheria

Brifen USA

Buffalo Soldiers Motorcycle Club

Butte County Public Works

California Association of Safety Education (CASE)

California Bicycle Coalition

California Chiefs Association, EMS Section

California Department of Alcoholic Beverage Control (ABC)

California Department of Behavioral Health

California Department of Health Care Services (DHCS)

California Department of Motor Vehicles (DMV)

California Department of Public Health (CDPH)

California Department of Transportation (Caltrans)

California District Attorneys Association (CDAA)

California Emergency Medical Services Authority (EMSA)

California Farm Bureau Federation

California Friday Night Live Partnership

California Highway Patrol (CHP)

California Office of Emergency Medical Services (OES)

California Office of Health Services (OHS)

California Office of Traffic Safety (OTS)

California Pedestrian Advisory Committee

California Polytechnic, Pomona

California Rural Indian Health Board Inc.

California State Senate Transportation and Housing Committee

California State Senate, Office of Research

Photo courtesy of Caltrans

California State University (CSU) Pomona
California Walks
Cambridge Systematics
Capitola Police Department
Center for Collaborative Policy (CCP), Sacramento State
Center for Counseling and Education
Chen Ryan Associates
Chico Velo Cycling Club
Circulate San Diego
Citrus Heights Police Department
City of Alameda
City of Atwater
City of Chowchilla
City of Chula Vista
City of Concord
City of Costa Mesa
City of Eureka
City of Fairfield
City of Fresno
City of La Mirada
City of Lancaster
City of Los Angeles
City of Monterey
City of Moreno Valley
City of Mountain View
City of Novato
City of Oceanside
City of Oxnard
City of Rancho Palos Verdes
City of Redding
City of San Diego
City of Santa Barbara
City of Santa Clarita
City of Santa Monica
City of Santa Rosa Public Works
City of Stockton
City of Vacaville
City of West Covina
City of West Hollywood
City of West Sacramento
City of Yorba Linda
CLEW Associates
Concord Police Department
Conejo Valley Cyclist
Cost-U-Less Insurance Center
County Engineers Association of California (CEAC)
County of Alameda
County of Calaveras
County of Contra Costa
County of Fresno
County of Los Angeles
County of Marin
County of Mono
County of Monterey
County of Nevada
County of Sacramento
County of San Bernardino
County of San Diego
County of San Joaquin
County of San Mateo
County of Solano
County of Sutter
County of Trinity
County of Tuolumne
County of Ventura
DDP Schools
Dignity Health MSJMC
Disability Resource Agency for Independent Living (DRAIL)
Dublin Police Services
DUEYES DMV Consulting
Eaton
EDC Public Health
El Dorado County Commission on Aging
El Dorado County District Attorney's Office
El Dorado County Public Health
El Dorado County Transportation Commission
Elk Grove Unified School District
Ennis-Flint
Environmental Council of Sacramento
Federal Highway Administration (FHWA), California Division
Federal Motor Carrier Safety Administration (FMSCA)
Federal Railroad Administration (FRA)
Federal Transit Administration
Fehr and Peers
Folsom Fire Department
Fontana Police Department
Freeway Insurance Center
Fresno Council of Governments
Fresno County Public Works and Planning
Giumarra Companies
Health and Social Policy Institute (HASPI)
Health Care Agency
Hoopa Tribal Roads Department
Humboldt County Association of Governments
Humboldt County Department of Public Works
Impact Teen Drivers
Inland Empire Biking Alliance
Insurance/Risk Management
J.M.Diaz, Inc.
John Muir Health
Juno
Kaiser Permanente/Safe Kids Greater Sacramento
Ken Pierce
Kings County Association of Governments (KCAG)
Kings View Community Services
Knife River Construction
LAE Associates
Lake Area Planning Council
Lindsay Transportation Solutions
Los Angeles County Bicycle Coalition
Los Angeles County Department of Public Works
Los Angeles County Metropolitan Transportation Authority
Los Angeles Department of Transportation
Los Angeles Police Department
Mainstreet Architects + Planners, Inc.

Marin County Public Works
Mendocino Council of Governments
Mendocino County Department of Transportation
Mercy San Juan Medical Center
Mira Costa College
Modesto Police Department
Monterey County RMA, Public Works
Mothers Against Drunk Driving (MADD)
Motorcycle Safety Foundation
National Council on Alcoholism and other Drug Addictions (NCADA)
National Highway Traffic Safety Administration (NHTSA), Region 9
National Safety Council
NSA Engineers
Office of Health Services, DUI Programs
Office of Health Services, San Marcos
Orange County Bicycle Coalition
Orange County Department of Public Works
Orange County Health Care Agency
Orange County Transportation Agency (OCTA)
Pacific Safety Center
Pasadena Police Department
Pinoleville Pomo Nation
Pit River Tribe
Placer County Department of Public Works
Placer County Transportation Planning Agency (PCTPA)
PrioriHealth Partners, LLP
ProProse
PSOMAS
Public Health Behavior Solutions
Public Health Institute (PHI)
Pyramid Alternatives
Rancho Los Amigos Rehabilitation Center
RedFlash Group
Reliable Liquid Transport, Inc.
Rincon Reservation
River Oak Center For Children
Riverside County Transportation Department
RKA Consulting Group
Robert M Shanteau, PhD, PE
Robinson Rancheria
Sacramento County Department of Health and Human Services
Sacramento Police Department
Sacramento Superior Court
Safe Routes to School National Partnership
SafeTREC, University of California at Berkeley
Safety Center, Inc.
Salinas Police Department
San Diego Association of Governments (SANBAG)
San Diego Community Action Partnership
San Diego County Sheriff's Department
San Diego Department of Public Works
San Diego Police Department
San Diego TriClub
San Francisco Bicycle Coalition
San Francisco Department of Public Works
San Juan Unified School District
San Luis Obispo Council of Governments (SLOCOG)
San Luis Obispo County Behavioral Health Agency
San Luis Obispo County Bicycle Coalition
San Mateo Police
Santa Barbara Cottage Hospital Trauma Services
Santa Barbara County Department of Behavioral Health
Santa Cruz County Regional Transportation Commission (SCCRTC)
Santa Monica Police Department
Santa Rosa Public Works
Shasta Living Streets
Shasta Regional Transportation Planning Agency
Sierra Club
Smith River Rancheria
Solano Transportation Authority
South Feather Water & Power Agency
South San Francisco Police Department
Southern California Association of Governments (SCAG)
Stantec
Statewide Traffic Safety & Signs, Inc.
STEPS, Inc.
Strategic Growth Council
Streets Blog
Sycuan Band of the Kumeyaay Nation
T.O. Bicycle Advisory Team
Tehama County Public Works (TCPW)
The High Road Program
Torres Martinez Desert Cahuilla Indians (TMDCI)
Traffic Safety Resource Prosecutor
TrafFix Devices, Inc
Transportation Agency for Monterey County (TAMC)
Trinidad Rancheria
Twin Palms Recovery Center
UCB
University of California Davis Health System
University of California, Berkeley
University of California, Irvine
University of California, San Diego (UCSD)
URS
Utilitarian Cycling
WA Traffic Safety Commission
WALKSacramento
Wheeler & Gray, Inc
Yurok Tribe

Photo courtesy of Wikipedia

Introduction

The Strategic Highway Safety Plan (SHSP) is a statewide, coordinated safety plan that provides a comprehensive framework for reducing highway fatalities and severe injuries on all public roads. It identifies key safety needs and guides investment decisions towards strategies and countermeasures with the most potential to save lives and prevent injuries.

The plan must be data driven, which means safety and other significant data are used to help define problems and develop solutions which focus on the 4Es of safety — engineering, enforcement, education, and emergency medical services. The SHSP also must be coordinated with other state safety plans including the Highway Safety Improvement Program (HSIP), the Highway Safety Plan (HSP), and the Commercial Vehicle Safety Plan (CVSP).

SHSP Vision:
California will have a safe transportation system for all users.

This plan is designed to address safety on California's large and complex roadway system with nearly 395,000 lane miles[1] (the total length and lane count) of public roads that accommodate the needs of over 24 million licensed drivers[2] and millions of pedestrians and bicyclists. This system is the foundation of California's economy which, in 2014, was the eighth largest in the world.

1 *FHWA, 2013. Highway Statistics 2012, Table HM-60, Functional System Lane-Length, October 2013, Federal Highway Administration, Washington, DC.*

2 *FHWA, 2013. Highway Statistics 2012, Table DL-22, Licensed Total Drivers, by Age, December 2013, Federal Highway Administration, Washington, DC.*

Continued population and economic growth in the state has created increased demand on existing roadways, raising the density of traffic and making safety more critical than ever for the diverse population who use the system on a daily basis.

SHSP Mission:
Ensure a safe and sustainable transportation system for all motorized and non-motorized users on all public roads in California.

California developed its first SHSP in 2005 and amended it in 2010. Over 400 safety stakeholders from 170 public and private sector agencies and organizations worked together to create and implement the plan under the direction of the SHSP

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Executive Leadership and a 13-member Steering Committee. The extent of collaboration on the original SHSP was unprecedented in California's history and remains one of the most successful efforts in the nation. Using rigorous data analysis, stakeholders identified 16 safety "Challenge Areas" on which to focus resources and efforts. The Challenge Areas included goals and strategies for each topic. Distracted Driving Challenge Area was added to the plan in 2010.

SHSP Goal:

California's Strategic Highway Safety Plan is Toward Zero Deaths.

SHSPs were first mandated under the Safe, Accountable, Flexible, Efficient, Transportation Equity Act — A Legacy for Users (SAFETEA-LU), which established the Highway Safety Improvement Program (HSIP) as a core federal program. The Moving Ahead for Progress in the 21st Century Act (MAP-21) continues the HSIP as a core Federal-aid program and the requirement for States to develop, implement, evaluate, and update an SHSP that identifies and analyzes highway safety problems and opportunities on all public roads. MAP-21 strengthened SHSP requirements by adding the following requirements:

- A regular update of the plan;
- Increased stakeholder involvement;
- Consideration of other safety factors (i.e., locations with risk factors, high-crash locations, rural roads, and road safety audit findings) when updating the SHSP;
- Integration with other state and regional plans;
- Focus on use of proven effective strategies and countermeasures; and
- Identification of methods to evaluate the SHSP.

In 2014, California decided to update the plan in advance of the Federal requirement. The update process, involved a comprehensive outreach effort involving individual presentations to over 50 agencies and organizations, six webinars on traffic safety topics, and two statewide summits in Northern and Southern California. This plan represents the culmination of that six month outreach effort.

One of the most important tasks when updating an SHSP is to determine the vision, mission, goal, and objectives for fatalities and severe injuries. The vision helps guide the plan, and the mission statement details how the vision will be achieved. Considerable discussion occurred among members of the Executive Leadership and Steering Committee on these items particularly given MAP-21 requirements on performance measures from the Federal government for the SHSP and other related safety plans (HSIP, HSP, and CVSP). Both committees felt strongly that Toward Zero Deaths (TZD) should be the ultimate aspirational goal for the plan, and that realistic and achievable steps should be set for California to move closer to zero deaths.

Photo courtesy of Caltrans

State of Traffic Safety

California, like the nation as a whole, has experienced tremendous reductions in traffic related fatalities and severe injuries over the past decade.

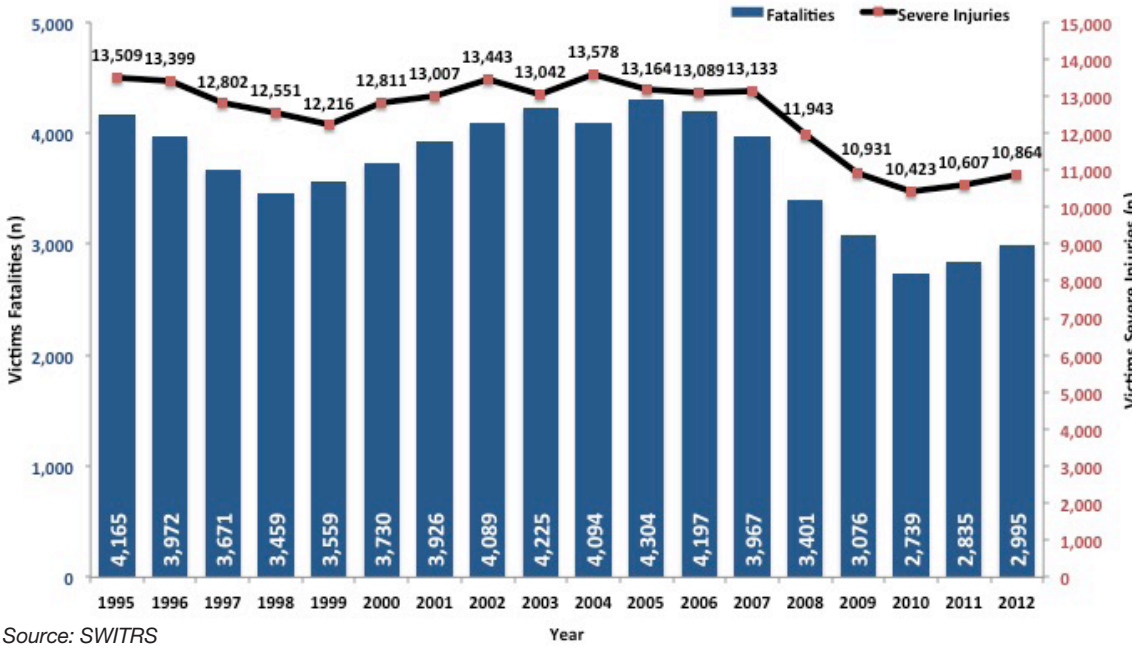
California, like the nation as a whole, has experienced tremendous reductions in traffic related fatalities and severe injuries over the past decade. Figure 1 shows the historical data on fatalities and severe injuries since 1995 and the dramatic downward trend from 2006 to 2010. The decline can be attributed to a number of reasons, including the economic recession, safer vehicles, better roadways, and changes in behavior with reduced drinking and driving, and increased safety belt use. This was also the period when all states, including California, were focused on safety through the development and implementation of their SHSPs.

While California has made progress in safety, nearly 3,000 people die each year in traffic crashes and more than 10,000 are severely injured. Not only is this a tragedy in human terms, there is also an economic cost. According to the National Highway Traffic Safety Administration (NHTSA), traffic crashes cost the state more than $22 billion per year.[3] The Appendix includes a breakdown of the cost of traffic crashes for counties in California.

There are also warning signs, with increases in traffic crashes in the last three years data were available, as Figure 1 shows. The line between 2005 and 2006 indicates when the first SHSP was started. This warning prompted California to develop an updated plan that can meet the challenge by building on the success of the past while incorporating sound and innovative ideas for the future.

3 *NHTSA, 2014. The Economic and Societal Impact of Motor Vehicle Crashes, 2010, DOT HS 812 013, National Highway Traffic Safety Administration, Washington, DC, May 2014.*

Figure 1: Fatal and Severe Injury Trends, 1995-2012



Source: SWITRS

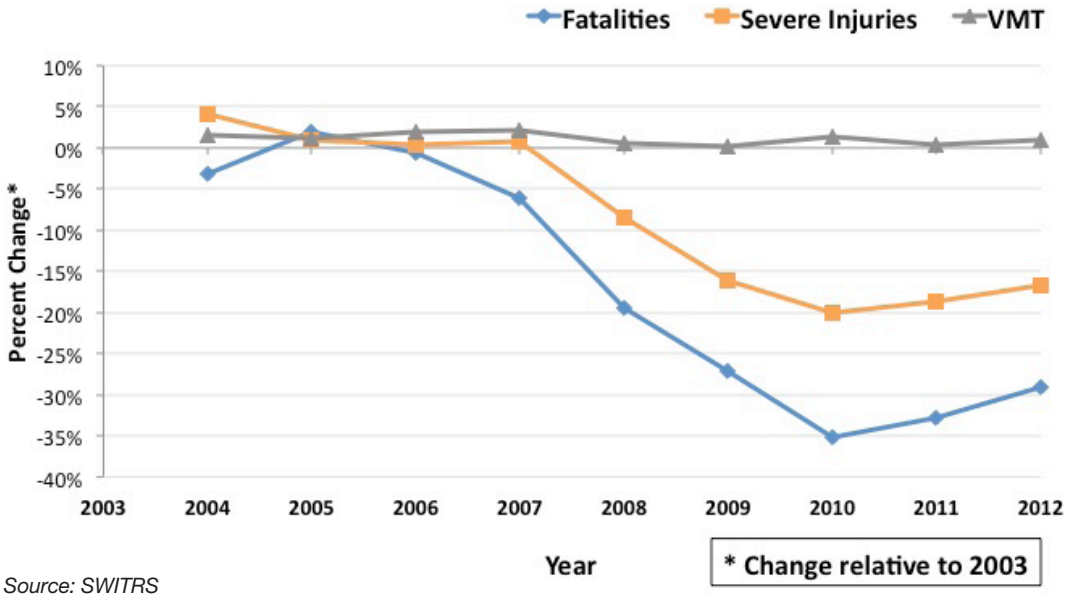
Many people attribute the decline in traffic related fatalities and severe injuries in the past eight years to the economic downturn when fewer jobs and less income led to less driving and therefore reduced exposure. The rate of driving is reflected in vehicle miles traveled (VMT). However, in California, VMT did not decline during the economic downturn, but stayed constant for the last ten years as shown in Figure 2. The line between 2005 and 2006 indicates the date the first SHSP was started. It is reasonable to infer that the SHSP process resulted in increased focus on safety and increased collaboration, and contributed to these reductions. California believes that with renewed energy around the SHSP update, the state will continue driving the numbers down.

In updating the SHSP, it was important to focus on detailed analysis of the safety problem using crash and other data to develop tailored solutions. For example, stakeholders investigated which population groups were involved in the majority of the crashes along with when and where they were occurring. Figure 3 shows males age 15 to 34 as the group involved in the most fatal and severe injury crashes.

Figure 4 shows the majority of crashes occur on the non-state highway system (Non-SHS); that is on local and county roads, and not state owned roadways. Therefore, a key imperative for moving forward is ensuring sufficient safety focus is placed on the non-state roadways where two-thirds of deaths and severe injuries occur. A larger number of fatalities and severe injuries occur in urban areas as shown in the urban versus rural comparison. California's statewide database, SWITRS, defines rural as unincorporated areas with populations fewer than 2,500 people and urban and incorporated areas.

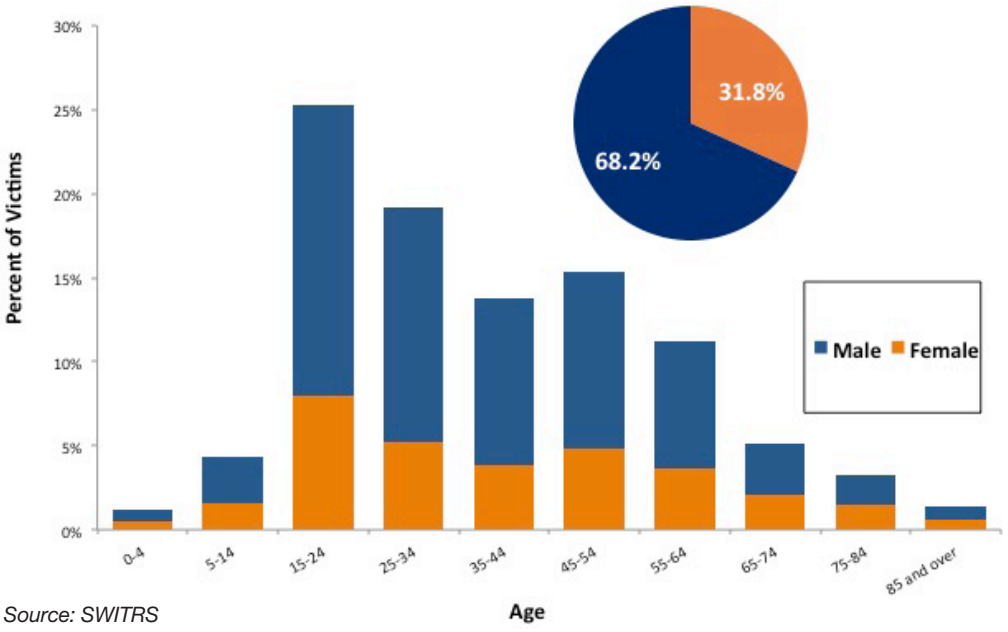
The state also has a high risk rural roads program (HR3) which is now part of the Highway Safety Improvement Program (HSIP). Since 2012, Caltrans has combined the call for HSIP and HR3 projects. The term 'high risk rural road' means any roadway functionally classified as a rural major or minor collector or rural local road on which the crash for fatalities and severe injuries exceeds the statewide average for those functional classes of roadways; or that will likely have increases in traffic volume that are likely to create a crash rate for fatalities and severe injuries that exceeds the statewide average for those functional classes of roadway.

Figure 2: Percent Change Fatal, Severe Injury & Vehicle Miles Traveled, 2003 to 2012



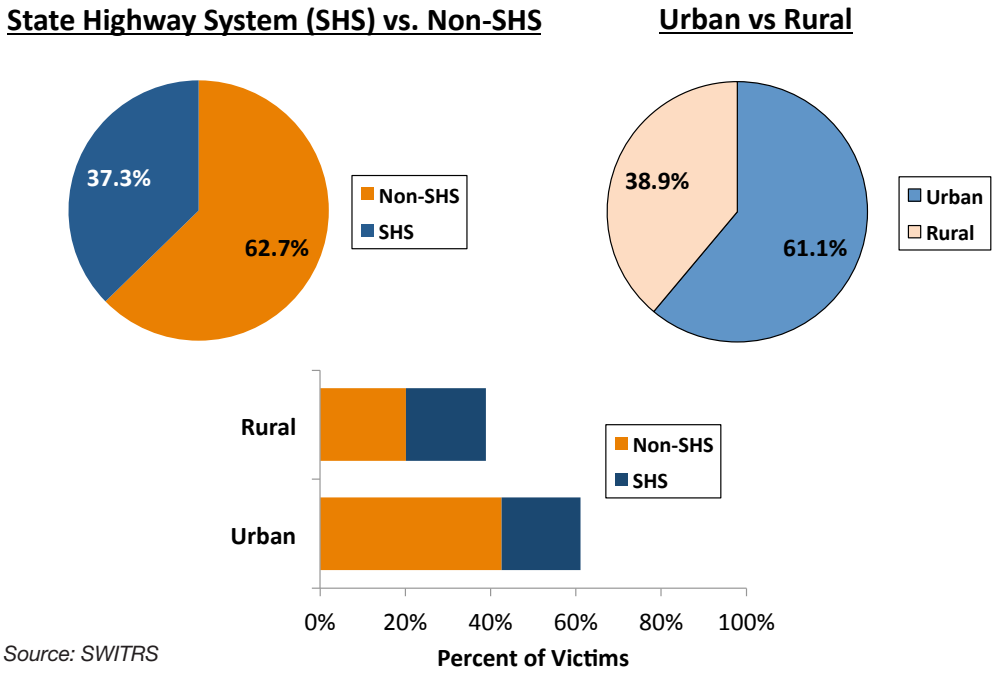
Source: SWITRS

Figure 3: Fatal & Severe Injury By Gender and Age



Source: SWITRS

Figure 4: Fatal & Severe Injuries By Roadway Ownership



Source: SWITRS

The Update Process

The SHSP is more than a document in California. It reflects the overall nature of traffic safety in the state and the people, organizations, and agencies that are essential to ensuring California maintains a safe and efficient roadway transportation system.

The update of the SHSP presents an opportunity to reflect on how safety can be improved in terms of data analysis, organizational structure, business processes, collaboration, partner engagement, implementation, and evaluation. The desire is for the SHSP document to capture all the opportunities for improvement in a user-friendly resource that will provide guidance for the next five years. The update process involved the following key activities:

- A strengths, weaknesses, opportunities, and threats (SWOT) analysis;
- Presentations to agencies and organizations throughout the state on the SHSP and why they should be involved;
- A tribal outreach effort including presentations to the Native American Advisory Committee, distribution of a survey to tribal leaders, a webinar focusing on tribal issues, and tribal workshops at both safety summits;
- A review of various other state and regional plans in the state to determine whether they are currently aligned with the SHSP;
- Six statewide webinars focusing on all of the previous SHSP Challenge Areas to give people who could not travel to the summits an opportunity to provide input into the plan; and
- Two statewide summits held in Northern and Southern California with workshops so people could offer their views on the content of the updated plan.

Photo courtesy of Arellano Associates

Accomplishments & SWOT Analysis

As California embarked on the SHSP update, a critical first step was to understand what has been successful about implementation of the current plan and where there are opportunities for improvement. It was important to the SHSP leadership that the state be able to take the plan to the next level to generate continued improvements in traffic safety and reductions in traffic related fatalities and severe injuries.

Accomplishments

California can be justifiably proud of the many accomplishments achieved by the hundreds of stakeholders who devoted their time, energy, and ideas to helping the state achieve significant reductions in traffic related deaths and severe injuries. This level of effort resulted in the formation of numerous partnerships that have enabled the SHSP to move forward over the last eight years.

- From 2005 to 2012, California experienced a 30.4 percent reduction in fatalities and a 17.5 reduction in severe injuries. Vehicle miles traveled (VMT) remained fairly constant throughout the entire period (VMT went from 327.4 billion in 2005 to 326.5 billion in 2012).
- Fatalities decreased by 23 percent on urban roadways from 2005 to 2012 and 38.2 percent on rural roadways. For severe injuries during the same time period, there was a decline of 13.6 percent on urban roadways, and 23.2 percent of rural roadways.
- From 2005 to 2012, there was a 40.4 percent decline in fatalities on state roadways and a 21.4 percent reduction on non-state roadways. For severe injuries, the decline on state roadways was 19.5 percent and on non-state roadways, it was 16.3 percent.
- Each of the Challenge Areas where data were available experienced a decline in fatalities between 2006 and 2010. Impaired driving had the largest decrease from 2,034 fatalities in 2006 to 1,417 in 2010 — a decline of 30 percent. Both the Leaving the Roadway and the Head-On Collisions Challenge Areas saw a steep drop in fatalities from 1,309 in 2006 to 755 in 2010 — a 42 percent decrease. These areas, however, are showing a disturbing increase in the last two years (2011 and 2012). Other areas showing an increase include pedestrians, bicyclists, and motorcyclists.
- Eleven of the Challenge Areas (those for which data are available) exceeded their fatality reduction goal. Only three did not reach the goal in the SHSP — pedestrians, bicyclists, and motorcyclists.

Overall the SHSP attained a remarkable level of achievement by completing 177 out of 179 of the plan's actions as of August 1, 2014. Information on all actions can be found in the SHSP Status Report document on the SHSP web page. The following chart highlights some of the major multidisciplinary accomplishments achieved by the Challenge Area Teams over the last eight years.

Photo courtesy of California Office of Traffic Safety (OTS)

Accomplishment	Challenge Area	Engineering	Enforcement	EMS	Education
Obtained support for the passage of a law that separates drug, alcohol, or combined drug and alcohol DUI convictions.	Alcohol and Drug Impairment		●		●
Instituted programs that provide monitoring and intense supervision of repeat DUI probationers.	Alcohol and Drug Impairment		●		
Developed and distributed materials on Responsible Beverage Service (RBS) training as a community prevention resource and distributed them to City and County Officials, and bar- and restaurant-alcohol-licensees in Orange County (OC), California, to encourage RBS practices, and assess response to the materials.	Alcohol and Drug Impairment		●		●
Implemented the Caltrans Local Roadway Safety Manual and HSIP Project Evaluation Tool which resulted in data driven project evaluations, and developed the Traffic Injury Mapping System (TIMS) which made local crash data available to all jurisdictions.	Roadway Departure	●			
Conducted training and outreach on low cost safety improvements including the use of high friction surface treatments and road safety audits. Local jurisdictions are now incorporating these improvements as part of their HSIP funded activities.	Roadway Departure	●			
Local agencies shifted to lower cost/higher benefit improvements which resulted in over 20 miles of HSIP funded projects per $1 million invested.	Roadway Departure	●			
Increased the integrity of the written testing process for driver license applicants.	Driver Licensing				●

Accomplishment	Challenge Area	Engineering	Enforcement	EMS	Education
Developed and implemented a data sharing system between California Emergency Medical Services Information System (CEMSIS), the Statewide Integrated Traffic Records System (SWITRS) and medical data (for example, data on injuries treated in hospitals and emergency departments).	Occupant Protection				
Increased child passenger safety use through education and enforcement after passage of state law raising the child passenger safety (CPS) restraint use to age 8.	Occupant Protection				
Developed a policy that requires the consideration of roundabouts and safety performance analysis findings when adding or expanding access points on the state highway system. The same also applies to local agencies.	Intersections, Interchanges, and other Roadway Access				
Produced an engineering policy to identify and address safety performance needs and impacts in the project scope for investments in freeway corridors where severe crashes are concentrated.	Intersections, Interchanges, and other Roadway Access				
Created the Freeway Safety Performance Demonstration Program which evaluates the use of lighting as a countermeasure along freeway corridors experiencing the highest concentration of fatal collisions on the state highway system.	Intersections, Interchanges, and other Roadway Access				
Created a Graduated Driver License (GDL) Made Simple program that included an instructional video, brochures, posters, and other information. Materials were widely disseminated and used statewide.	Young Drivers				

Accomplishment	Challenge Area	Engineering	Enforcement	EMS	Education
DMV developed a new young driver web site with videos and other information.	Young Drivers				
Conducted statewide education on GDL for law enforcement officers through train-the-trainer programs.	Young Drivers				
Incorporated new language into California's Manual on Uniform Traffic Control Devices (MUTCD) that provides more positive guidance for new crosswalks at uncontrolled crossing locations and to encourage the use of longitudinal or diagonal markings between the transverse lines (ladder-style crosswalks) at uncontrolled crossing locations.	Pedestrians				
Incorporated new category in the HSIP guidelines that create funding for crosswalk safety measures. These capital improvements are designed to encourage drivers to yield to pedestrians at marked or unmarked crosswalks, shorten crossing distances, enhance driver awareness of crossings, and/or provide active warning of pedestrian presence at crossing locations.	Pedestrians				
Updated methodology to include coding of collisions within crosswalks which increased the data available on the number on overall number of pedestrian fatalities and severe injuries. This gives a more accurate picture of pedestrian safety problems and will help justify systemic pedestrian safety improvements at intersections.	Pedestrians				
Included information in California's Manual on Uniform Traffic Control Devices (CAMUTCD) on traffic control devices that accommodate older drivers and pedestrians, particularly in areas with senior populations.	Aging Road Users				

Accomplishment	Challenge Area	Engineering	Enforcement	EMS	Education
Improved left-turn options and intersections to meet the needs of older drivers by making changes to the Highway Design Manual.	Aging Road Users				
Implemented a multimedia education campaign to broaden senior awareness of transportation options; increase senior willingness to use these options; and enlist the support of families, friends, and the community in helping seniors transition to alternative forms of transportation.	Aging Road Users				
Implemented and widely disseminated older driver safety and mobility programs of partner organizations.	Aging Road Users				
Defined the term “aggressive driving” for California and conducted educational outreach.	Speeding and Aggressive Driving				
Conducted a judicial survey by the Department of Motor Vehicles to measure the feasibility of a behavior modification course for aggressive drivers.	Speeding and Aggressive Driving				
Implemented a pilot behavior modification program in Sacramento utilizing the National Safety Council’s Attitudinal Dynamics of Driving course.	Speeding and Aggressive Driving				
Enhanced the Commercial Inspection and Education Program (CIEP) to assist the commercial industry with current educational curriculum related to commercial vehicle traffic safety. In 2011 four randomly selected companies ranging in fleet size, showed a 45 percent reduction in enforcement citations issued by the CHP after formal CIEP training and education were conducted.	Commercial Vehicles				

Accomplishment	Challenge Area	Engineering	Enforcement	EMS	Education
Designed, conducted, and completed a two-year study to collect supplemental, detailed motorcycle collision data.	Motorcycles				
Developed and disseminated lane splitting guidelines based on a statewide lane splitting survey of California drivers and motorcycle riders.	Motorcycles				
Developed and disseminated materials to encourage the use of USDOT-approved helmets, including helmet exchanges.	Motorcycles				
Developed the first in nation traffic control policies to accommodate bicyclists in work zones.	Work Zones				
Evaluated and promoted work zone best practices, including use of full roadway closures, larger letters on temporary signs, and temporary transverse rumble strips for flagging operations.	Work Zones				
Increased work zone awareness to influence driver behavior through changes to DMV handbook and tests, project-specific websites, real-time traffic updates, and work zone safety campaigns.	Work Zones				
Developed and conducted a joint work zone training between Caltrans, contractors, and the California Highway Patrol.	Work Zones				
Developed and implemented a statewide campaign to change social norms related to distracted driving.	Distracted Driving				
Developed a distracted driving curriculum that targets adults employees in the work place.	Distracted Driving				

Accomplishment	Challenge Area	Engineering	Enforcement	EMS	Education
Documented driver behavior through an annual statewide cell phone/texting observational survey.	Distracted Driving				✓
Increased the California Emergency Medical Services Information System (CEMSIS) linkage with other data systems. CEMSIS is now accepting Pre-hospital and trauma center data from participating local EMS agencies.	Emergency Medical Services (EMS)			✓	
Finalized State Trauma Plan in 2013 and held two Trauma System Educational Summits in 2009, 2010, and 2013. As of 2013, state has 75 trauma centers; three counties actively working toward the trauma center designation.	Emergency Medical Services (EMS)			✓	✓
Developed a guide showing communications channels and helipad information for EMS statewide and made available on the EMS website.	Emergency Medical Services (EMS)			✓	✓
Developed two informational cards now available at DMV Field offices, Caltrans District offices, CHP Area offices, and EMSA providing information on how to identify the location of a crash, what is the best destination, and the appropriate way to transport injured persons.	Emergency Medical Services (EMS)			✓	✓

SWOT Analysis

The SWOT analysis involved a survey of Challenge Area teams, a guided discussion with the Steering Committee at their August 2014 meeting, and individual interviews with key stakeholders, agencies, organization, and SHSP leadership.

Following is a listing of the some of the key findings in terms of strengths, weaknesses, opportunities, and threats:

Strengths

- Collaboration across the 4Es;
- Breadth and depth of the partners involved;
- Support and commitment from top level management for not only the plan but for accountability in completing strategies and actions;
- Number of actions completed; and
- Detailed tracking of progress.

Weaknesses

- Difficulty keeping some busy safety stakeholders active and involved;
- Lack of involvement by regional, local, and tribal agencies;
- Lack of evaluation of the direct safety impact of specific actions; and
- Lack of succession planning for SHSP leadership.

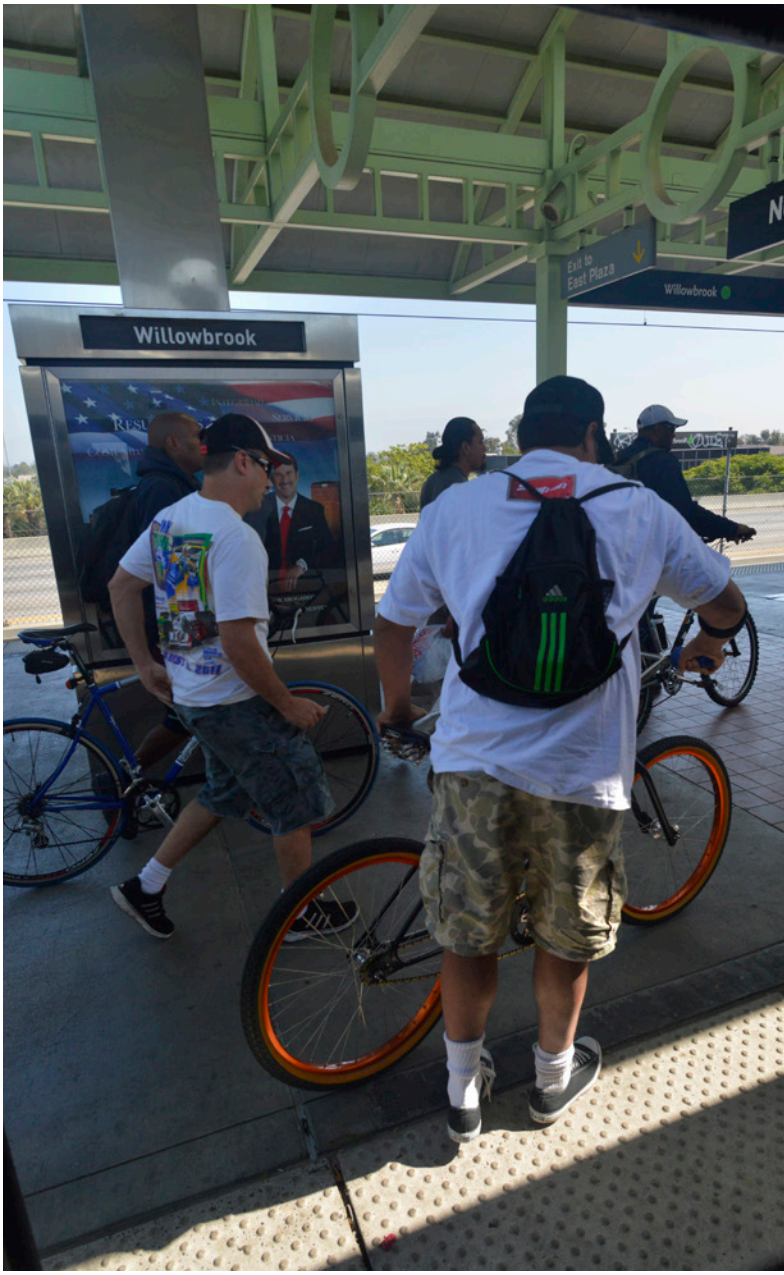
Opportunities

- Link the SHSP to the current Active Transportation Program in the state;
- Address safety concerns for all modes of transportation;
- Develop an orientation for new Challenge Area members; and
- Create a noteworthy practices database.

Threats

- Budget limitations;
- Changes in SHSP leadership;
- Potential rules and requirements under MAP-21 or other transportation bill; and
- Lack of a clear role for local governments.

Photo courtesy of Samir Momani, Caltrans



Public Involvement

Presentations

At the beginning of the update process, the update team contacted a number of agencies and organizations to request an opportunity to give a presentation about the SHSP. The following are the agencies and organizations that participated:

- Active Transportation and Livable Communities (ATLC)
- Association of Monterey Bay Governments (AMBAG)
- Bay Area Congestion Management Agency
- California Ambulance Association Board Meeting
- California Association of Council of Governments (CALCOG)
- California Bicycle Coalition
- California Emergency Medical Services Authority Commission Meeting
- California Public Safety Radio (CPRA)
- California Trucking Association
- Caltrans Planning and Local Assistance Network (PLAN)
- Central Valley Workshop (Fresno)
- Council of Fresno County Governments (COFCG)
- County Engineers Association of California (CEAC)
- Fresno Council of Governments
- Intertribal Transportation Working Group
- Local Highway Safety Improvement Program (HSIP) Advisory Committee Meeting
- Los Angeles County Department of Public Works (LACDPW), Traffic & Lighting Division
- Los Angeles County Metropolitan Transportation Authority Streets and Freeways Subcommittee
- Los Angeles County Metropolitan Transportation Authority Technical Advisory Committee (TAC)
- Metropolitan Transportation Commission, Operations Committee
- Native American Advisory Committee (NAAC)

Photo courtesy of Southern California Council of Governments (SCAG)

- Northern California Association of Public-Safety Communications Officials (NAPCO)
- North State Super Region Safety Session
- Placer County Transportation Planning Agency (PCTPA)
- Public Health Alliance of Southern California Webinar
- Redding and Lemoore CTP Tribal Listening Session
- Rural Counties Task Force
- San Diego Association of Governments (SANDAG)
- Santa Barbara County Association of Governments (SBCAG),Technical Transportation Advisory Committee (TTAC)
- Southern California Association of Governments (SCAG), Transportation Committee
- Tahoe Metropolitan Planning Organization
- Transportation Co-Op Committee
- Tribal Transportation Safety Summit

Over 900 individuals participated in this process, and all comments and suggestions are included in the outreach matrix that forms the basis for the content of the updated SHSP.

Webinars

Six two-hour webinars were held during the last week of October to give safety stakeholders who could not travel to the summits an opportunity to provide input into the plan. The webinars focused on the following topics:

- Driver Behavior
  - Impaired driving
  - Occupant protection
  - Speeding and aggressive driving
  - Distracted driving
- Tribal road safety
- Infrastructure and operations
  - Roadway departures
  - Intersections
  - Work zones
- Active Transportation
  - Pedestrians
  - Bicyclists
- Focus Populations
  - Young drivers
  - Older drivers
  - Commercial vehicles
- Emergency Medical Services

To promote the webinars and summits described below, information was distributed to a list of 1,500 stakeholders statewide. A total of 449 people participated in the webinars, and of that number 45 percent had not previously been involved with the SHSP. Following is a breakdown of how many participants attended each session:

- Driver Behavior - 99
- Tribal – 47
- Focus Populations - 68
- Vulnerable Road Users - 125
- Infrastructure - 74
- Emergency Medical Services - 36

Safety Summits

Two safety summits were conducted: on November 12, 2014 at California State University- Los Angeles and on November 14, 2014 at California State University – Sacramento.

Photo courtesy of Cambridge Systematics

The two half-day summits involved a total of 231 participants (81 in Los Angeles and 150 in Sacramento). The summits included presentations from top officials from key Federal, state, and local agencies involved in safety. Presenters included:

- **Vince Mammano,** Division Administrator, Federal Highway Administration, California Division
- **Tom Hallenbeck**, Division Chief, Traffic Operations, Caltrans
- **Rhonda Craft**, Director, Office of Traffic Safety
- **Chief Steve Dowling**, California Highway Patrol
- **Alan Thompson**, Senior Regional Planner, Southern California Association of Governments (SCAG) (Los Angeles only)
- **Dean Lehman**, Assistant Deputy Director, Traffic Division, Los Angeles County Department of Public Works (Los Angeles only)
- **Tom Mattson**, Director of Public Works, Humboldt County (Sacramento only)

The focus of the summit group discussions followed the same organizational structure as the webinars. Individuals chose two discussion groups and offered their ideas and views on what should be included in the updated plan.

Public Comment

All information collected through the presentations, webinars, summits, and on-line through the SHSP web site was compiled into a matrix showing what public comments were received, the proposed or current SHSP strategy, and any actions that were suggested. This information was carefully reviewed by members of the SHSP Steering Committee and each of the Challenge Area Teams who recommended the final list of strategies for the plan. In some cases strategies from the previous SHSP were determined to still be relevant and in others new strategies proposed based on the knowledge, expertise and current work being conducted by the Challenge Area Teams.

Before selecting the final strategies, the Challenge Area Teams applied the following test to ensure what was included in the plan would be feasible and effective:

- Does the strategy address a defined problem?
- Is the strategy data-driven?
- Can the strategy be achieved?
- Are there sufficient resources to implement?
- Can it be accomplished and evaluated within five years?
- Is there evidence that demonstrates its effectiveness? If not, can evaluation be integrated into the program/projects?

The SHSP was prepared and a draft posted on the SHSP website for further stakeholder review. Further public comments were reviewed and where appropriate included in this plan which only includes the SHSP strategies. A companion Implementation Plan includes the action plans to implement the strategies in this plan. Action plans include actions, action lead agency/organization, resources, timing, and budget.

Photo Courtesy of California Office of Traffic Safety (OTS)

Photo Courtesy of California Office of Traffic Safety (OTS)

Photo courtesy of Southern California Council of Governments (SCAG)

Photo courtesy of Caltrans

Planning Alignment Report

Improving safety coordination and linkages among regional and statewide planning processes in California will support a comprehensive approach to transportation safety planning, encouraging every agency to work towards the same goal. It also provides additional opportunities to implement safety programs addressing key priorities throughout the State.

To evaluate the extent of dedicated safety planning at the regional level and the extent to which regional safety plans were aligned with the SHSP, the study team reviewed the available metropolitan transportation plans (MTP) for the state's Metropolitan Planning Organizations (MPOs), and Regional Transportation Planning Agencies (RTPAs), as well as the Highway Safety Improvement Program (HSIP), Highway Safety Plan (HSP), Commercial Vehicle Safety Plan (CVSP) and the California Transportation Plan 2040 (CTP 2040).

> The CTP 2040 is a statewide, long-range transportation plan developed to meet the State's future travel needs while reducing greenhouse gas (GHG) emissions. The CTP 2040 envisions a sustainable transportation system that improves mobility for all, strengthens our communities, and enhances the quality of life through a set of goals with supporting policies, one of which is to Improve Public Safety and Security. Although the CTP 2040 is a high-level transportation planning document that incorporates modeling, it is not solely data-driven. Similar to the SHSP, the CTP 2040 supports and brings awareness to statewide importance in reducing fatalities and severe injuries.

The CTP 2040 is being developed through an extensive public involvement process, government-to-government engagement with tribal communities, and close work with all levels of local, regional, state, and federal partners. The result is a transportation policy framework designed to serve all of California's diverse populations and addresses social equity, environmental, and economic interests.

Challenge Area Teams that focus primarily on behavioral safety closely review the HSP developed each year by the Office of Traffic Safety to ensure the SHSP strategies reflect the current funding priorities in the HSP. The CVSP was reviewed and information provided to the Commercial Vehicle Challenge Area Team to ensure coordination between both plans. For instance, the CVSP includes efforts to enforce registration requirements which supports the SHSP strategy to increase enforcement of commercial vehicle and operator violations. Projects that are funded through the HSIP must be reflected in the SHSP.

The transportation plans were reviewed for content on safety including the extent of safety analysis, safety inclusion in goals and objectives, existence of safety-oriented performance measures and targets, and inclusion of safety as a project prioritization method. A series of recommendations were developed for how California could improve alignment with the SHSP. Some of these recommendations focused on opportunities to engage and inform MPOS/RTPAs, how to enhance safety data sharing and analysis with regional planners, and how to better align SHSP and regional safety goals, policies, strategies, and performance measures.

In addition, an electronic survey was distributed by Caltrans to MPO/RTPA leaders and via California Council of Governments (CalCOG) to its membership. The survey evaluated the extent to which agencies conduct safety planning, participated in SHSP development or implementation, conduct safety analysis, and use safety to prioritize projects. The results of the research show that, as part of the SHSP update implementation, increased engagement with MPOs/RTPAs is needed. A copy of the Planning Alignment Report is available on the SHSP web site.

Vision, Mission, Goal, Objectives

The updated SHSP includes a vision, mission, goal, and measurable objectives which enable the state to track progress throughout the five year life of the plan. The vision, mission, and goal are included in the introduction, but restated here for emphasis.

Vision Statement
California will have a safe transportation system for all users.

Mission Statement
The mission is to ensure a safe and sustainable transportation system for all motorized and non-motorized users on all public roads in California.

The plan will achieve this mission by utilizing a data driven, 4E approach of engineering, enforcement, education, and emergency medical services to improve infrastructure and assist with behavior change and by focusing efforts in those areas where the greatest opportunity for reductions in traffic related fatalities and severe injuries exist. This will enhance California's economy and livability.

Goal Statement
The goal of California's Strategic Highway Safety Plan is Toward Zero Deaths.

Measurable Objectives
MAP-21 requires states to develop performance measures on the number and rate for fatalities and severe injuries. A rate is based on the number of fatalities and severe injuries per 100 million VMT. Both the Executive Leadership and the Steering Committee believed that SHSP objectives should be something to strive toward but also should be attainable. Based on a review of all available data the Steering Committee selected the following measurable objectives for the SHSP:

- A three percent per year reduction for the number and rate of fatalities; and
- A 1.5 percent per year reduction for the number and rate of severe injuries.

Measurable objectives are shown in Table 1. The base year of 2012 was the last year for which data were available.

Table 1. SHSP Measurable Objectives

	Fatalities	Fatality Rate (fatalities per 100 M VMT)	Severe Injuries	Severe Injury Rate (Severe Injuries per 100 Million VMT)
2012	2995	0.92	10,864	3.33
2013	2771	0.89	10,701	3.28
2014	2688	0.86	10,541	3.23
2015	2608	0.84	10,382	3.18
2016	2529	0.81	10,227	3.13
2017	2453	0.79	10,073	3.09
2018	2380	0.76	9,922	3.04
2019	2308	0.74	9,773	3.00
2020	2239	0.72	9,627	2.95
	Annual reduction of 3%		Annual reduction of 1.5%	

Source: SWITRS

Challenge Area Overview

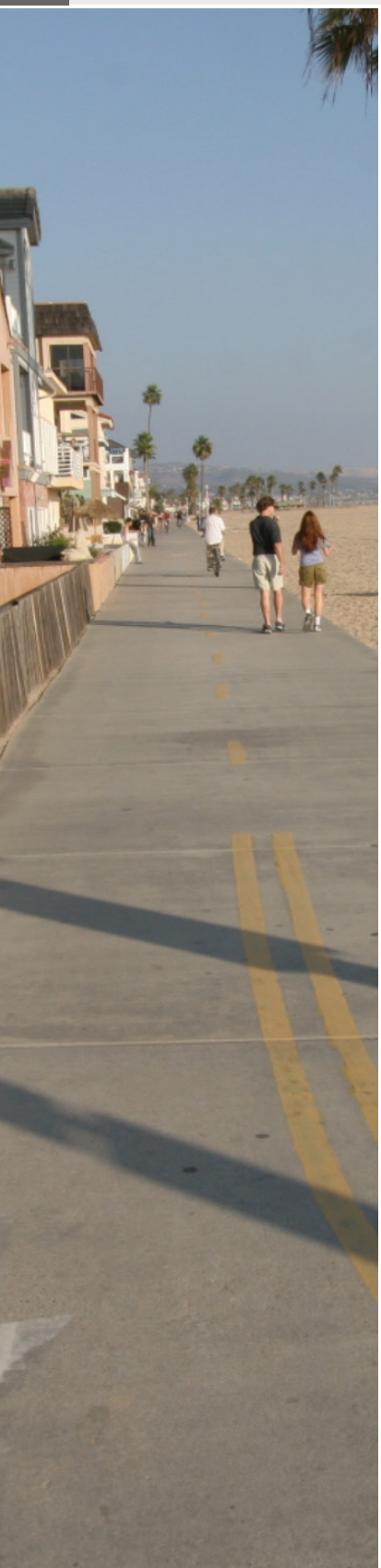


Photo courtesy of Dan Burden, Pedestrian and Bicycle Information Center

California has a large number of Challenge Areas, more than most states have adopted for SHSPs. There are several factors, however, that make the California process unique.

- The previous effort with 17 Challenge Areas has been very successful as evidenced by the reductions in fatalities and severe injuries;
- There are a large number of committed, active, and involved safety stakeholders who may not stay involved if issue areas are eliminated or absorbed into other areas; and
- The majority of leaders for Challenge Area Teams have a high degree of ownership in the process and have done an outstanding job throughout the previous eight years.

Based on these factors, the Steering Committee and Executive Leadership chose to maintain the current Challenge Areas with the exception of:

- Challenge Area 16 - Improve Safety Data Collection, Access, and Analysis was shifted to serve as a technical resource to Executive Leadership, Steering Committee, Challenge Area Teams and will be called the Data Technical Advisory Team.
- Challenge Area 5 - Improve Driver Decisions with Rights of Way and Turning and Challenge Area 7 - Improve Intersection and Interchange Safety for Roadway Users, which are combined into a new Challenge Area: Intersections & Roadway Access.

To make the plan easier to understand, the Steering Committee chose to shorten the names of the Challenge Areas, and to make the names more descriptive. Following is a list of the Challenge Areas for the updated SHSP:

- Roadway Departure and Head-On Collisions
- Intersections, Interchanges, and other Roadway Access
- Work Zones
- Alcohol and Drug Impairment
- Occupant Protection
- Speeding and Aggressive Driving
- Distracted Driving
- Driver Licensing and Competency
- Pedestrians
- Bicycling
- Young Drivers
- Aging Road Users
- Motorcyclists
- Commercial Vehicles
- Emergency Medical Services

Statewide Policy Directions

The SHSP is a multi-disciplinary effort involving Federal, state, and local representatives from the 4Es of safety who dedicated countless hours to improve safety and partnerships across disciplines. The Executive Leadership, which supported these efforts, met annually to hear about progress and provide future direction for the SHSP. They also proposed overarching policy actions that did not fall under any specific challenge area, but rather impacted the larger SHSP picture.

The policy actions involved multi-year efforts lead by the Steering Committee or technical experts from challenge areas. These actions were targeted to receive special attention and are unique in how they are accomplished and their long term impact on safety in California. These efforts include the following:

- Complete an update of the SHSP
- Increase efforts to create a traffic safety culture;
- Improve traffic safety data; and
- Increase local, regional, and tribal involvement.

Following is a brief summary of the current policy actions identified by Executive Leadership.

SHPS Update – Efforts to update the SHSP began in 2014 with the hiring of Cambridge Systematics and other consultants. With the combined experience and a tight time-line, individual and group meetings, webinars and summits took place to gather information and prepare a draft update. After numerous reviews and refinement a final SHSP was completed in April of 2015. Further work will be conducted to prepare a detailed SHSP Implementation Plan outlining future actions to be completed over the next five years to meet the plan's measurable objectives for reductions in fatalities and severe injuries.

Traffic Safety Culture – The purpose of the effort is to "Change the way Californians — including individuals, communities, organizations, and government — approach the use of roads, so that safety is a highly valued and vigorously pursued component of traffic culture". The Department of Motor Vehicles (DMV) volunteered to lead an SHSP Traffic Safety Culture Task Force which developed the "Draft Recommendations for Improving California's Traffic Safety Culture". The document contains 58 strategies for ways to improve California's traffic safety culture along with four ways to measure progress.

Photo courtesy of the California Highway Patrol (CHP)

Traffic Safety Data – Given the importance of data to the overall SHSP process, the Executive Leadership identified the need to develop a plan for improving the way California collects, manages, stores, compiles, analyzes, and distributes highway safety data including crash, roadway inventory, volume, driver, vehicle, citation/adjudication, and injury surveillance data. The Data Technical Advisory Team, along with the state's Traffic Records Coordinating Committee (TRCC), developed a Traffic Safety Data Plan which includes six goals. To date, progress has been made to create and implement a base mapping system to support California's traffic records system, and there has been a reduction in the backlog of existing collision reports into the state's crash database — the Statewide Integrated Traffic Records System (SWITRS).

Local/Regional/Tribal Involvement – In 2012, Executive Leadership directed that actions to increase communication between the SHSP and local agencies be initiated. As part of the update process, over 70 stakeholder and partner outreach events were conducted with regional and local agencies and organizations. Presentations were made to a number of MPOs and RTPAs. The presentations provided information on the SHSP, why the plan is important to local and regional agencies and organizations, and how to get involved. A special workshop was also held in the Central Valley at the request of local elected officials.

Significant efforts have been made to engage Tribal audiences, including a dedicated Tribal webinar during the series and input sessions at the Safety Summits. The core issue identified consistently by all groups is the need for increased coordination among the many disparate groups that are involved in traffic safety as related to the 111 Tribes in California. Instead of adding a Tribal Challenge Area, the decision was made to identify the following overarching strategy that will benefit all Challenge Areas.

Overarching Tribal Strategy

Institutionalize coordination of resources and strategic partnerships among Tribes, Challenge Areas, local and county governments, law enforcement, and the Native American Advisory Committee (NAAC) with the goal of improving transportation safety in Indian Country.

Additional strategies and actions, defined through SHSP outreach, will be addressed, such as improving Tribal crash data and providing technical assistance to Tribes.

As the SHSP moves forward there may be other policy actions identified by the Executive Leadership. Connected Vehicles (vehicle to infrastructure communication) and Automated Vehicles (vehicle to vehicle communication) will impact transportation system management, operations, and safety and may emerge as promising performance benefits that can enhance SHSP efforts.

Photo courtesy of Caltrans

Implementation and Evaluation

This document includes only the SHSP strategies. A companion Implementation Plan includes the actions to implement the strategies in this plan. Actions will include the lead agency/organization, a description of the action, and target completion dates.

Implementation

The SHSP update process improved the understanding of California's safety issues and focused on the steps needed to keep the State on track to reduce traffic fatalities and severe injuries. The updated plan and the accompanying action plan document provide a roadmap for effective implementation of the vision, mission, and goals. The Steering Committee and Challenge Area teams evaluated the safety data and managed the development of performance measures, strategies, and actions for each area. As the plan is implemented, these key safety stakeholders, with oversight from the Executive Leadership and Steering Committee, will supervise the implementation process by doing the following:

- Track implementation progress in each of the Challenge Areas;
- Evaluate the effectiveness of strategies and actions to ensure they are contributing to decreases in fatalities and severe injuries;
- Identify barriers or problems to implementation;
- Provide regular updates on SHSP-related campaigns, initiatives, training, and programs;
- Provide guidance on future programs, activities;
- Determine the approach to future SHSP updates; and
- Work with the SHSP data task force to identify data needs and improvements.

The Steering Committee will meet on a regular basis throughout implementation to provide policy direction and direct assistance to the Challenge Area teams and to any regional or local efforts, as appropriate. Challenge Area teams, under the direction of the team co-leads, also will meet regularly to address the following items:

- Discuss action step implementation progress and coordinate next steps;
- Identify problems or barriers and report to the Steering Committee;
- Suggest new actions or modify existing actions as needed;
- Continually track and report progress; and
- Evaluate the effectiveness of their overall plan.

Given the size and complexity of traffic safety in California, it may also be necessary to develop a regional approach to implementation. This approach could involve the designation of certain regions, either based on the location of Caltrans District Offices, or by working with the MPOs and RTPAs in the state. These regions would review specific data for their region and select those traffic safety problems that are most critical in their area. Once these areas are selected, the regions would consult the statewide SHSP to identify appropriate strategies and actions on which to focus in their region.

Photo courtesy of the California Highway Patrol

The regional approach could be an excellent way to address the Executive Leadership's overarching regional, local, and tribal policy priorities and a way to incorporate the needs and concerns of tribal communities. The regional approach would be managed concurrently with the overall statewide effort where Challenge Area teams continue to meet and work on issues of statewide concern. From time to time, the statewide teams could reach out to regional entities to request their assistance with certain aspects of SHSP implementation. A regional approach to implementation has not been formally adopted by the SHSP Executive Leadership and is currently under advisement and review.

Evaluation

This plan incorporates the 4Es of safety — education, enforcement, engineering and emergency medical services — and will also add a fifth E for Evaluation. Evaluation is critical to understand what is working and should continue and what is not working and should be modified or discontinued. In this way, California will ensure its limited resources are focused on the strategies and actions that will generate the best results.

In addition to the SHSP and the companion action plan document, California will develop an Evaluation Plan that will assess both process and performance. The process evaluation will examine roles, responsibilities, and process activities as well as establish a timeline for monitoring, evaluating and communicating SHSP Update performance data. This process evaluation will optimize the data collection and management process to ensure decisions are made with an understanding of the benefits, limitations, and level of effort required.

On the performance side, an SHSP Evaluation Plan will be developed before implementation takes place to ensure all aspects of the SHSP implementation can be properly evaluated and tracked. The measurable objectives for the SHSP will remain the same throughout the five year life of the plan, but will be reviewed annually to see if they track with the annual HSIP and HSP performance targets.

This plan will define output and outcome measures for each of the Challenge Areas teams. Ensuring each of the strategies and actions in the SHSP are data-driven and evidence-based is a critical factor for success and the Evaluation Plan will determine at what level this goal was achieved. And finally, the SHSP leadership will want to know whether safety partners incorporated elements of the SHSP in their plans, including the HSIP, HSP, and CVSP.

Photo courtesy of Samir Momani, Caltrans

Photo courtesy of Shastawheelmen

Challenge Areas

The following section includes a summary of the 15 Challenge Areas. Each description defines the Challenge Area, lists the strategies, and includes a figure on fatality and severe injury trends. The final strategies were selected by the SHSP Challenge Area Teams and approved by the Steering Committee and Executive Leadership. Tribal strategies are included throughout each of the Challenge Areas and will be monitored separately to ensure they are implemented during the life of the plan. A number of strategies can be cross cutting and affect more than one challenge area. All challenge area teams are encouraged to work collaboratively with all teams.

CHALLENGE:

Roadway Departure & Head-On Collisions

Photo courtesy of Caltrans

Crashes in this Challenge Area include when the collision was head-on or the movement preceding is a roadway departure, e.g leaving the road or crossing into the opposing lane. Data include all victims in 1) a head-on collision, or 2) a collision where one or more parties' movement preceding the collision is a roadway departure (e.g., leaving the roadway or crossing into the opposing lane).

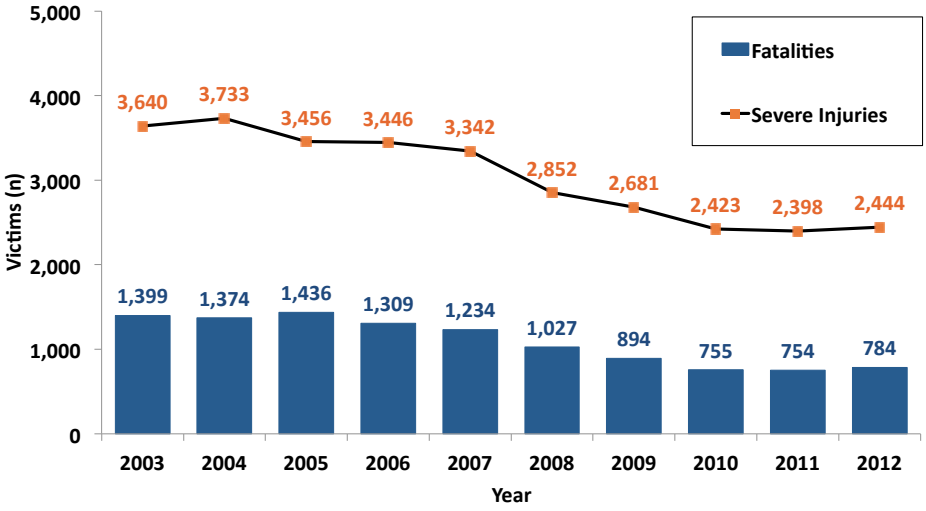
Leaving the road and head-on collisions represent almost a quarter (23.3 percent) of the total traffic fatalities and severe injuries in California. Figure 5 shows that between 2006 and 2012, there were 6,757 leaving the road and head-on fatalities, and 19,586 people were severely injured.

Trends from 2010 to 2012: The majority of these crashes happen on local roads and in rural areas with the largest numbers involving males age 15 to 24. They also occur at night (midnight to 3 a.m.) and on weekends with a substantial number happening between noon and 6 p.m. Over thirty percent of these crashes involve driving or bicycling under the influence of alcohol or other drugs, nearly 25 percent involve improper turning, and more than 12 percent involve speeding.

Roadway Departure Strategies:

- Address systemic risks on non-state roads with low cost safety countermeasures.
- Ensure funding strategies reflect unique local needs.
- Improve the dissemination of crash data at the jurisdictional level.
- Target highest risk jurisdictions for funding and technical assistance.

Figure 5 Roadway Departure & Head-On Fatal and Severe Injury Trends, 2003 to 2012



Source: SWITRS

CHALLENGE:

Intersections, Interchanges, & Other Roadway Access

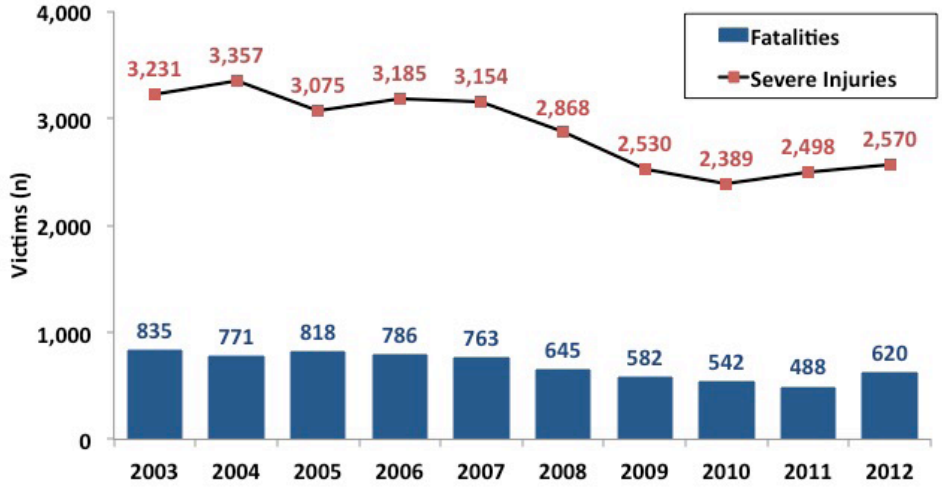
Photo courtesy of Cambridge Systematics

Nowhere on the roadway system are the opportunities for conflict more prominent than at intersections where various road users including drivers, pedestrians, cyclists, and motorcyclists come together in close proximity. In California in 2012, over 20 percent of all fatalities and severe injuries happened at intersections or involved a vehicle and a train. From 2006 to 2012, 4,426 people have died in intersection or involved a vehicle and train and 19,194 were severely injured as shown in Figure 6. These crashes are especially common when traffic volumes are highest. The age group with the highest representation in fatal and severe injury intersection crashes is 15 to 24, involving mostly males. Fatal and severe intersection crashes happen most often on local roadways (over 80 percent) and in urban areas (over 70 percent). Intersection and freeway access fatal and severe injury crashes happen most often between 3 p.m. and 9 p.m. There are also a high number that happen on Friday and Saturday evenings from 9 p.m. to midnight.

Intersection, Interchanges, and Other Roadway Access Strategies:

- Mainstream and accelerate the deployment of innovative solutions that have been proven to be highly effective and cost-effective.
- Pursue programmatic application of low-cost and high-impact strategies, countermeasures, and activities.
- Focus on continuous improvement and collaboration by building on the foundational work products and findings generated by previous strategic safety and other statewide initiatives.
- Emphasize the role and importance of visibility among road users and workers (especially during hours of darkness).
- Minimize or avoid safety performance degradation resulting from land use and highway infrastructure investment proposals.
- Increase understanding and collaboration among transportation system owners, operators, investors, and regional agencies regarding the effect of access-related decisions on safety and overall system performance.

Figure 6 Intersection, Interchanges, and Other Roadway Access Fatal and Severe Injury Trends, 2003 to 2012



Source: SWITRS

CHALLENGE:

Work Zones

Photo courtesy of Caltrans

One of Caltrans' most important responsibilities is to ensure roads and highways are properly maintained. Unfortunately, roadway pavement does not last forever and, depending on the volume of traffic and other problems, roadways may only last eight to ten years. When Caltrans must maintain or make improvements to the roadway and surrounding environment it sets up a work zone. Work zones involve construction workers implementing improvements in areas with lane closures, detours, and moving equipment. The work areas are set up according to the type of road and the work to be done and can last from a few days to years. Data include all victims in collisions occurring in a construction or repair zone.

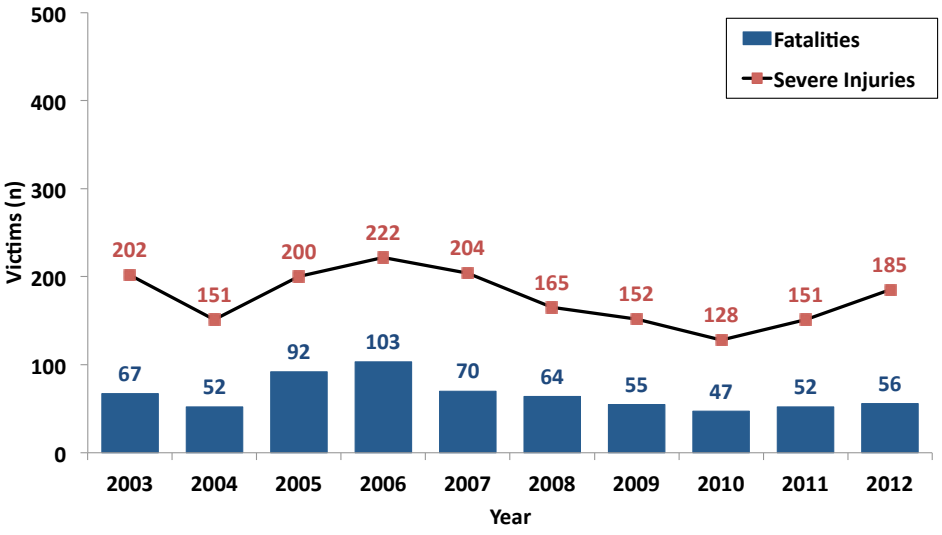
Work zones only accounted for 1.7 percent of all traffic fatalities and severe injuries in the state in 2012. Figure 7 shows that between 2006 and 2012, 447 people died in work zone crashes and 1,207 were severely injured.

Trends 2010 to 2012: The age group with the largest involvement is 15 to 24, but numbers are also high for individuals age 25 to 34 and 45 to 54. More than two thirds of those involved are male. Work zone fatalities and severe injuries occur primarily on state-owned roadways (75 percent) and in urban areas (58.8 percent). The majority of the fatal and severe injury work zone crashes occur between 9 p.m. and 3 a.m.

Work Zone Safety Strategies:

- Evaluate and promote strategies for best work zone practices.
- Improve safe driving through work zones with education and enforcement.
- Apply advanced technology to improve work zone safety.
- Improve work zone data collection and analysis.

Figure 7 Work Zone Fatal and Severe Injury Trends, 2003 to 2012



Source: SWITRS

CHALLENGE:

Alcohol and Drug Impairment

Photo courtesy of California Office of Traffic Safety (OTS)

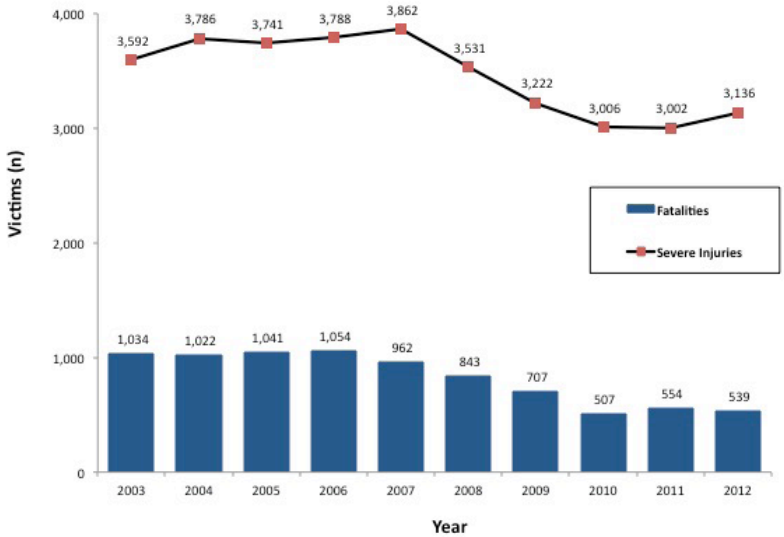
In 2012, over one-third (34.2 percent) of all fatalities and severe injuries in California involved an impaired person. As shown in Figure 8, 11,769 people died in impaired driving crashes and 23,547 were severely injured from 2006 to 2012. Alcohol and drug-related collisions as addressed by this Challenge Area includes all instances where a driver, pedestrian, bicyclist, or motorcyclist is under the influence of alcohol, illicit drugs, prescribed, or over–the-counter medication. Data for this Challenge Area includes all victims in collisions involving one or more impaired parties. This would include both alcohol and drug impairment.

Trends from 2010 to 2012: The age group with the highest involvement in impaired crashes was 15 to 24, with the majority being males. Most impaired fatalities and severe injuries occur on non-state owned roadways in urban areas, and happen on the weekends between midnight and 3 a.m. While alcohol remains the largest contributor to impaired-driving crashes that result in fatalities or severe injuries, there are a growing number of crashes that involve drugged driving where the person is under the influence of a legal or illegal drug. Fatal and severe injuries involving drug-only impairment increased from 554 in 2009 to 705 in 2012.

Alcohol and Drug Impairment Strategies:

- Enhance state laws, local ordinances, and programs intended to reduce alcohol and/or drug impaired driving.
- Enhance the utilization of DUI treatment programs, emerging innovations, and system monitoring to reduce DUI offenses among highest risk offenders, including repeat or high-BAC offenders, and in areas identified with the highest DUI risk.
- Improve consistent, timely DUI adjudication and broaden and/or improve application of administrative sanctions of impaired drivers.
- Conduct education/social norming and other programs to change behaviors related to impaired driving.
- Enhance knowledge of the impacts of legal and illegal drug use on safe driving using empirical evidence and implement effective, data-driven methods to identify and reduce drug-impaired driving or roadway use.
- Enhance DUI enforcement, training, and tools for improved detection and enforcement of impaired roadway users.
- Enhance the collection, management, and accessibility of data related to the consequences of impaired driving and the effectiveness of the DUI countermeasure system.

Figure 8 Alcohol and Drug Impairment Fatal and Severe Injury Trends, 2003 to 2012



Source: SWITRS

CHALLENGE:

Occupant Protection

Photo courtesy of Kate Bernacki, California Department of Public Health

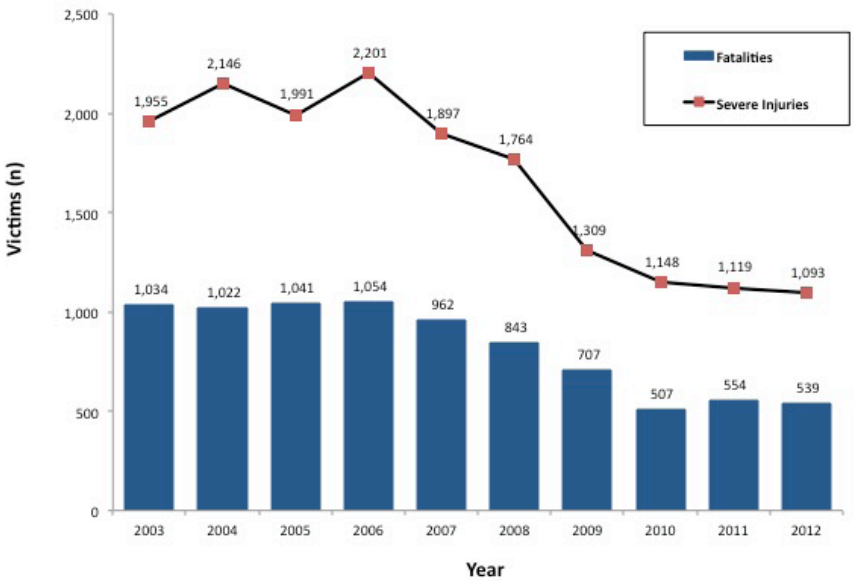
From 2006 to 2012, 5,166 individuals died in unrestrained crashes and 10,531 were severely injured as shown in Figure 9. Data include all victims in collisions that did not use or improperly used a safety belt or child restraint. In 2012, these crashes represented over 25 percent of the total traffic fatal and severe injuries in California. Research and statistics show the best defense in a crash is a seat belt or a properly installed child safety restraint.

Trends from 2010 to 2012: In California, the age group with the largest number of unbelted fatalities and severe injuries is age 15 to 24, of which the majority are male. The majority of unrestrained crashes occur on local (non-state owned) roadways and are split between rural and urban areas. Like impaired driving, the majority of the unbelted fatal and severe injury crashes happen on the weekend between midnight and 3 a.m.

Occupant Protection Strategies:

- Target high risk populations with education and enforcement to increase occupant protection use.
- Improve occupant protection educational outreach.
- Increase occupant protection enforcement and improve adjudication of violations.
- Improve occupant protection data collection processes.

Figure 9 Occupant Protection Fatal & Severe Injury Trends, 2003 to 2012



Source: SWITRS

CHALLENGE:

Speeding & Aggressive Driving

Shutterstock

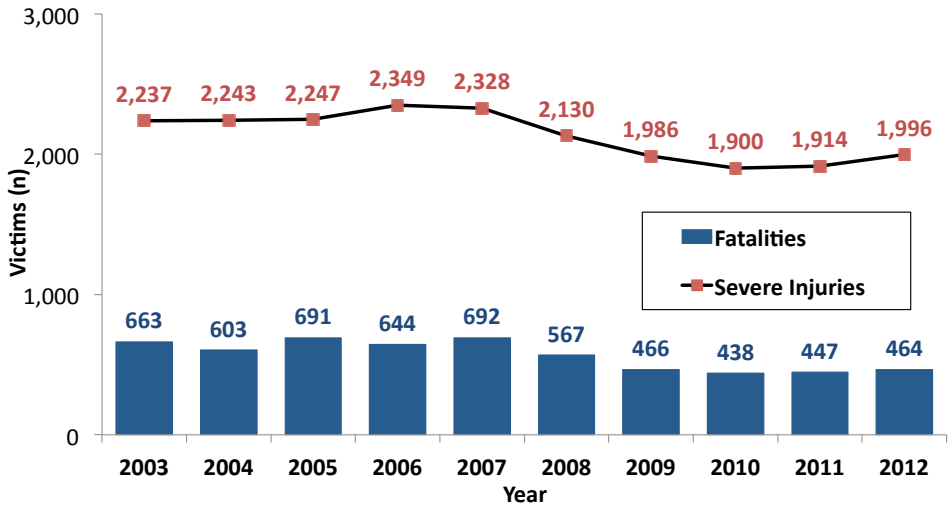
Speeding is reported as a contributing factor on the crash report when a motorist exceeds the speed limit or is driving too fast for conditions. In 2012, nearly 20 percent of traffic-related fatalities and severe injuries were speed-related in California. As shown in Figure 10, 3,718 people died in speed-related crashes and 14,603 were severely injured between 2006 and 2012.

Trends from 2010 to 2012: The age group with the highest representation in speed-related crashes is age 15 to 24 with the majority being male. Slightly over half of fatal and severe injuries (52.8 percent) happen on non-state owned roadways and the majority are in urban areas. The deadliest time for speeding fatalities and severe injuries is on Fridays between 3 p.m. and 6 p.m.

Speeding & Aggressive Driving Strategies:

- Increase targeted enforcement at locations prone to speeding and other forms of aggressive driving.
- Improve the consistency of adjudication of drivers cited for speeding and other forms of aggressive driving.
- Increase use of technology and engineering methods to reduce speeding and other forms of aggressive driving.
- Conduct outreach and education about the safety risks of speeding.

Figure 10 Speeding & Aggressive Driving Fatal & Severe Injury Trends, 2003 to 2012



Source: SWITRS

CHALLENGE:

Distracted Driving

Photo courtesy of California Office of Traffic Safety (OTS)

Any activity that diverts a driver's attention away from the task of driving is distracting. This includes taking eyes off the road, hands off the wheel, or one's mind off the task of driving. California, like many states, does not have reliable data on distracted driving. The issue is gaining greater attention given the technology available to road users including cell phones, tablets, televisions, navigation devices, etc. Right now California has a law that only allows for hands-free equipment driving except for young drivers. All text-based communication including email and instant messaging is prohibited. Given the lack of detailed distracted driving data, the actual number of fatalities and severe injuries is hard to quantify but anecdotal information indicates the number is high.

Distracted Driving Strategies:

- Improve data quality on distracted driving.
- Increase enforcement and improve adjudication of current distracted driving laws.
- Conduct education on the risks of distracted driving using evidence-based strategies to create a culture of traffic safety.
- Strengthen laws on distracted driving.

Photo courtesy of Cambridge Systematics

CHALLENGE:

Driver Licensing & Competency

Photo courtesy of Cambridge Systematics

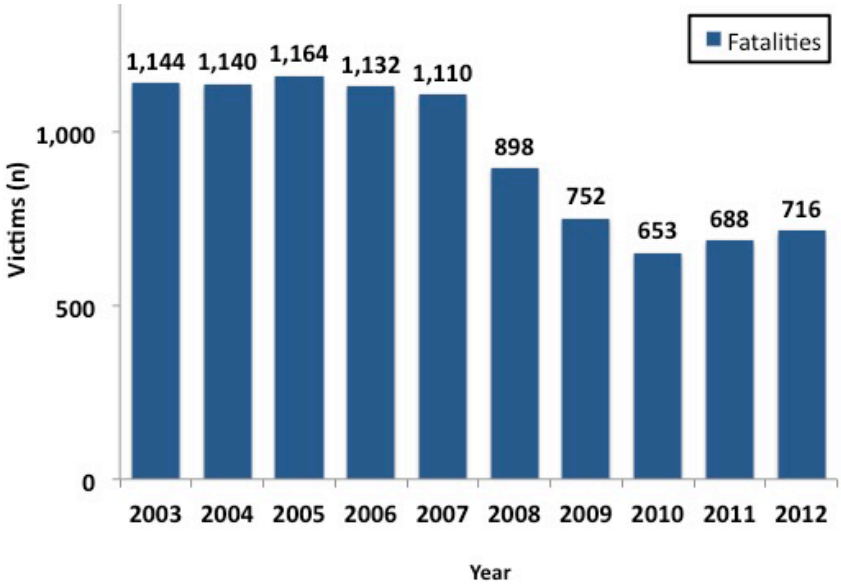
Improper licensing remains an issue in California with large numbers of drivers continuing to drive after their privileges have been suspended or revoked. The state will undergo a transition as it implements a law which grants all immigrants access to a driver's license. Data for this team includes only fatalities in collisions involving a driver who is unlicensed or does not possess a valid license for the vehicle class. No other injury data is reported for this Challenge Area team because it is defined using the Fatality Analysis Reporting System (FARS) dataset.

According to the California DMV, suspended or revoked drivers are three times more likely to be involved in or cause a fatal crash. The loss of driving privileges often stems from the individual's inability to drive safely which is one of the reasons attention to this issue is needed. Between 2006 and 2012, 5,949 individuals died in crashes involving an unlicensed driver as shown in Figure 11.

Driver Licensing Strategies:

- Improve the initial driver licensing process.
- Improve the competency of licensed drivers.
- Assess and improve policies for managing unlicensed drivers, negligent operators, and suspended/revoked drivers.
- Improve data systems, including quality control measures, for driver and vehicle records, citations issued, court adjudication reporting, and DMV license actions.
- Improve training of law enforcement and related local agencies regarding licensing, DMV license actions, and DMV data systems.

Figure 11 Driver Licensing and Competency Fatal Injury Trends, 2003 to 2012



Source: FARS

CHALLENGE:

Pedestrians

Photo courtesy of Dan Burden, Pedestrian and Bicycle Information Center

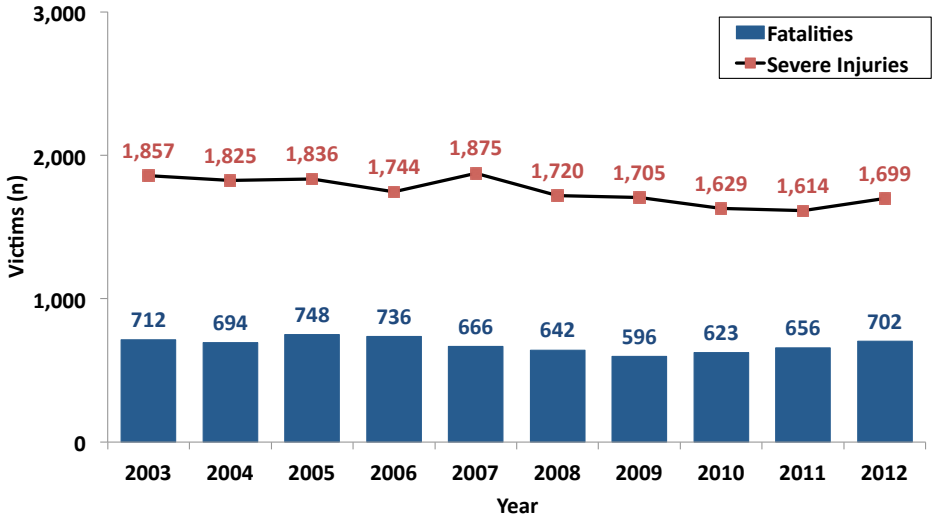
The number of pedestrian fatalities and severe injuries has been increasing in California as shown in Figure 12. Data include only pedestrians, and not any other injured road users. Between 2006 and 2012, 4,621 pedestrians were killed and 11,986 were severely injured. Pedestrian fatalities and severe injuries represent 17.32 percent of the total number of traffic fatalities and severe injuries in California in 2012.

Trends from 2010 to 2012: The majority of pedestrian fatalities and severe injuries involve people ages 15 to 24, with the majority of those in that age category being male. However, the numbers are also high for ages 45 to 54 and 55 to 64. The overwhelming majority (over 80 percent) of fatal and severe pedestrian crashes happen on local roads and in urban areas with most happening between 6 p.m. and 9 p.m. As more communities promote active transportation initiatives that get people walking and bicycling, it will be a challenge to ensure this does not increase pedestrian fatalities and severe injuries.

Pedestrians Strategies

- Improve the safety of pedestrian crossings by using proven effective countermeasures.
- Expand effective enforcement and education of all roadway users to improve pedestrian safety based on known risk factors and data trends.
- Increase funding for pedestrian safety infrastructure and non-infrastructure projects.
- Improve collection, use, and analysis of data needed for pedestrian safety planning and programming.
- Increase pedestrian safety-focused coordination among state, regional, and local agencies including on transportation planning and land use efforts.

Figure 12 Pedestrian Fatal and Severe Injury Trends, 2003 to 2012



Source: SWITRS

CHALLENGE:

Bicycling

Photo courtesy of Cambridge Systematics

Bicycling is a popular means of transportation in California with its temperate climate. The addition of bike lanes and well-maintained bike paths has also increased the number of people using this mode of transportation. However, when bicycles and motor vehicles meet, the result can be disastrous for the bicyclist who is no match for a heavy vehicle. Victim data include only bicyclists and passengers on a bicycle, but not any other injured road users.

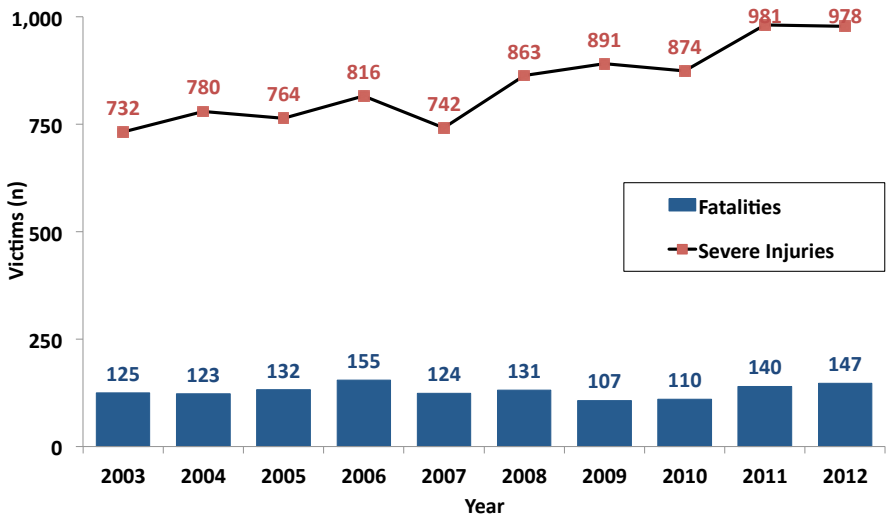
Figure 13 shows that between 2006 and 2012, 914 bicyclists were killed and 6,145 were severely injured, which represent nearly 10 percent of all fatalities and severe injuries in the state.

Trends from 2010 to 2012: Bicyclist fatalities and severe injuries are highest among ages 15 to 24 followed closely by ages 45 to 54, with the age groups dominated by males. The majority of severe and fatal injuries happen on local roads (over 85 percent) in urban areas (over 75 percent) and occur on weekdays between 3 p.m. and 6 p.m. The largest number of bicycle fatalities and severe injuries on a particular day, however, happen on Saturday between 9 a.m. and noon, which may be due to recreational weekend cycling activities at that time.

Bicycling Strategies:

- Improve roadway and bikeway planning, design, operations, and connectivity to enhance bicycling safety and mobility to all destinations.
- Improve data collection regarding bicyclist trips, injuries, and fatalities on California roadways and bicycle paths.
- Improve education and enforcement to promote safe multi-modal travel.
- Encourage more bicycle travel by improving public attitudes about bicycling as a safe mode of transportation.

Figure 13 Bicyclists Fatal and Severe Injury Trends, 2003 to 2012



Source: SWITRS

CHALLENGE:

Young Drivers

Photo courtesy of Cambridge Systematics

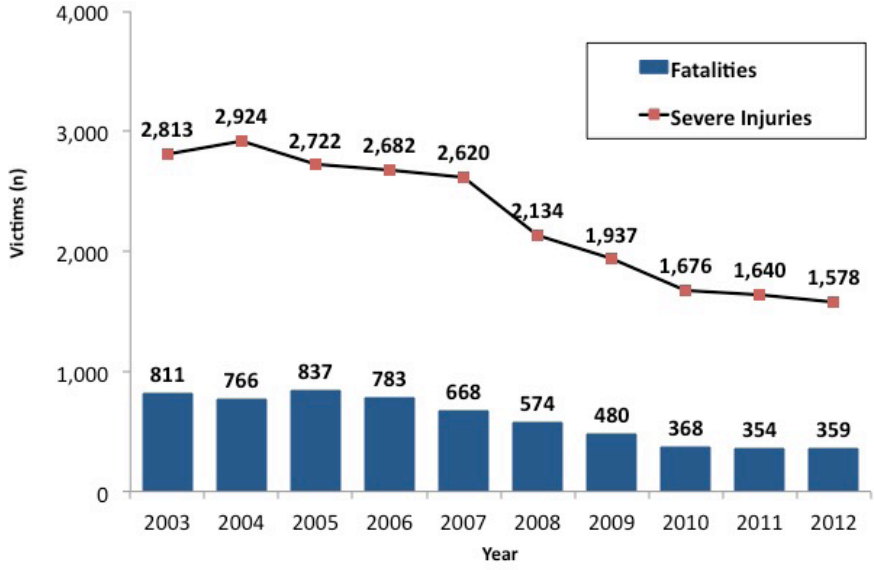
Young drivers have less driving experience, may be less likely to identify hazardous conditions and react to them, and are disproportionately involved in risky driving behaviors that directly result in more crashes. Data includes all victims in collisions involving one or more young drivers between ages of 15 and 20. Fatalities and severe injuries among this age group made almost 15 percent of all fatalities and severe injuries in the state in 2012. From 2006 to 2012, 3,586 young drivers died and 14,267 were severely injured as shown in Figure 14.

Trends from 2010 to 2012: The majority of young driver crashes involve males. Individuals age 18-20, the years right after the graduated drivers license restrictions cease, have the highest representation in fatal and injury crashes. Nearly 70 percent of young driver fatalities and severe injuries take place on local roads in urban areas, and occur mainly on the weekends from midnight to 3 a.m. In the United States, motor vehicle crashes remain the leading cause of death for people ages five through 24.

Young Drivers Strategies:

- Increase awareness of and compliance with graduated driver licensing laws.
- Promote social norming and behavior change on youth related traffic safety issues.
- Promote the use of evidenced-based programs and outreach methods.
- Improve school policies and procedures relating to young driver safety.
- Improve enforcement and adjudication of young offenders.

Figure 14 Young Driver Fatal & Severe Injury Trends, 2003 to 2012



Source: SWITRS

CHALLENGE:

Aging Road Users

Photo courtesy of Cambridge Systematics

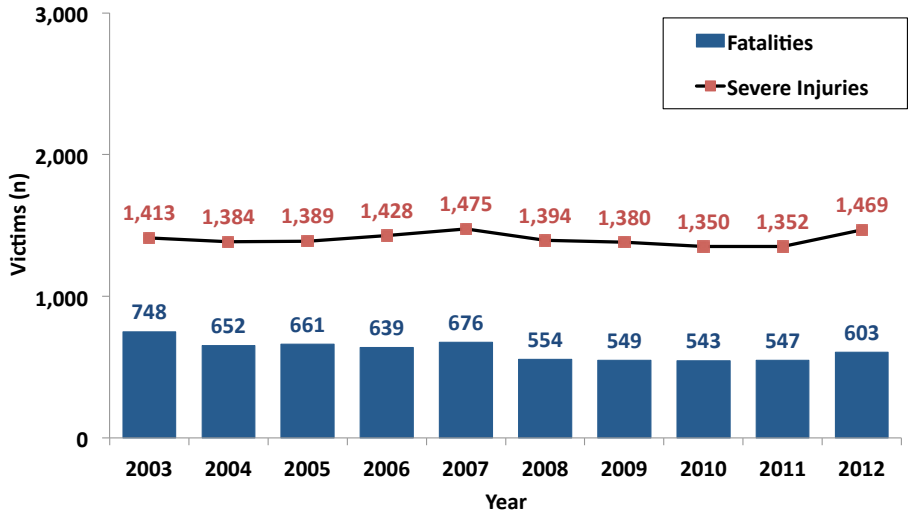
Aging roadway users are defined as those drivers, pedestrians, bicyclists, and motorcyclists age 65 or older. Data include all victims in collisions involving one or more parties at least age 65. Victims can be of any age. According to 2010 census data, people age 65 and older make up 12.5 percent of the population in California, as compared to 14.1 percent nationally. Aging affects all aspects of driving from eyesight to judging time and distance to having the necessary strength and flexibility to operate a vehicle. While aging does affect driving, it does not do so at the same rate for every individual. Thus, the goal is to keep individuals driving for as long as it is safe to do so. In California, aging roadway users accounted for nearly 15 percent of all traffic fatalities and severe injuries in 2012.

Trends from 2010 to 2012: Figure 15 shows that between 2006 and 2012, 4,111 aging road users died and 9,848 were severely injured. These crashes occur mainly on local roads (66.6 percent) and in urban areas (63.7 percent). A large proportion occur between noon and 6 p.m., with Friday showing the highest numbers.

Aging Road User Strategies:

- Develop and disseminate education materials, programs and tools that explain how the aging process may affect safe driving.
- Promote awareness of the impact of prescription and non-prescription and supplements on the safety of aging road users.
- Promote implementation of multi-modal guidance for aging road users, which is included in the California Manual on Uniform Traffic Control Devices.
- Promote knowledge and increased application by transportation professionals of preferred roadway design elements friendly to aging road users.

Figure 15 Aging Road Users: Fatal & Severe Injury Trends, 2003 to 2012



Source: SWITRS

CHALLENGE:

Motorcycles

Photo courtesy of California Highway Patrol (CHP)

Motorcycle riding has increased considerably over recent years, which has resulted in an increase in fatalities and severe injuries. Motorcycles offer no protection in a crash, unlike a passenger vehicle, where the occupants are afforded some measure of protection from the vehicle body. Data include all victims in collisions involving a motorcycle or moped. Victims do not have to be a driver or passenger of a motorcycle or moped.

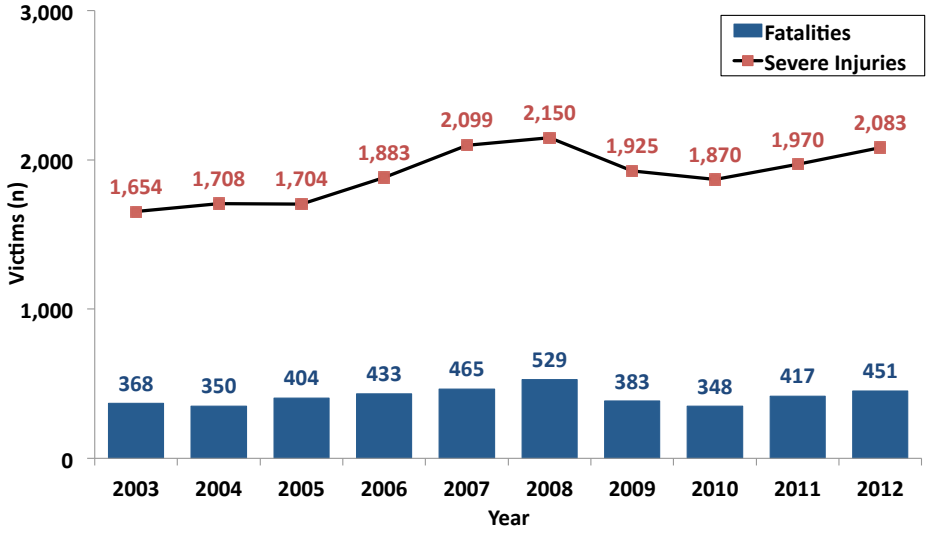
Motorcyclist fatalities and severe injuries constituted nearly twenty (18.3) percent of the total traffic fatalities and severe injuries in the state in 2012.

Trends 2010 to 2012: Males overwhelmingly experience the highest number of fatalities and severe injuries in all age groups. Fatalities and severe injuries are fairly high for most age groups 15 to 64 with ages 25 to 34 showing the highest numbers. Riders (45 to 64 years old) who return to riding after taking a number of years off from riding and not participating in a refresher motorcycle training course are also vulnerable. The majority of these crashes happen on local roadways (59.3 percent) and in urban areas (55.7 percent) and occur mainly on the weekends between noon and 6 p.m. Figure 16 shows that between 2006 and 2012, 3,026 motorcyclists were killed and 13,980 were severely injured.

Motorcycles Strategies:

- Improve public education on motorcycle safety.
- Improve motorcycle licensure.
- Improve motorcycle exposure and crash data.
- Improve motorcycle rider training.
- Enhance roadway design to improve motorcycle safety.

Figure 16 Motorcyclists Fatal and Severe Injury Trends, 2003 to 2012



Source: SWITRS

CHALLENGE:

Commercial Vehicles

Photo courtesy of Cambridge Systematics

Commercial vehicles include heavy trucks and buses. Data include all victims in collisions involving a truck, school bus, or other bus. Victims do not have to be a driver or passenger of a truck, school bus, or other bus.

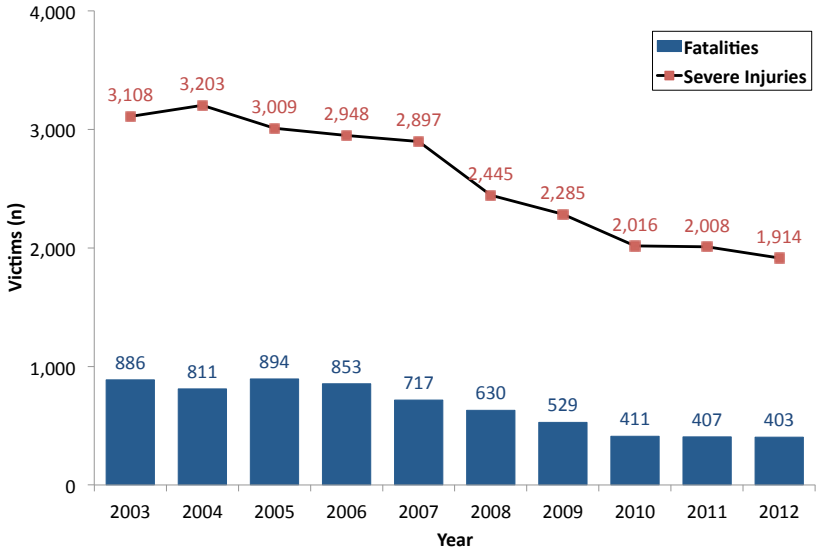
California has considerable commercial vehicle traffic as goods bound for the rest of the nation leave the state ports or travel through from Mexico. While the number of fatalities and severe injuries involving commercial vehicles is low, the impact on traffic safety can be substantial given the severity of the crashes, many of which are caused by passenger vehicles. To continue improving safety, the traveling public must be educated on sharing the road with these vehicles. In California 6.5 percent of traffic fatalities and severe injuries involve commercial vehicle drivers. Figure 17 shows that from 2006 to 2012, 3,950 deaths have resulted from commercial driver crashes and there have been 16,513 severe injuries.

Trends 2010 to 2012: Males age 15 to 34 experience the largest number of fatalities and severe injuries, but numbers are also high for other age groups (35 to 54). These crashes happen mainly on state roads (61.1 percent), are evenly split between urban (51.2 percent) and rural areas (48.8 percent), and occur mainly from noon to 3 p.m. during the weekdays.

Commercial Vehicles Strategies:

- Improve training and education of commercial vehicle safety stakeholders.
- Increase the use of effective enforcement strategies to improve commercial vehicle safety.
- Identify and implement engineering features that reduce commercial vehicle-related crashes.
- Improve commercial vehicle safety data.
- Identify and promote use of technology for improving commercial vehicle safety.

Figure 17 Commercial Vehicle Drivers: Fatal and Severe Injury Trends, 2003 to 2012



Source: SWITRS

CHALLENGE:

Emergency Medical Services

Photo courtesy of the California Highway Patrol (CHP)

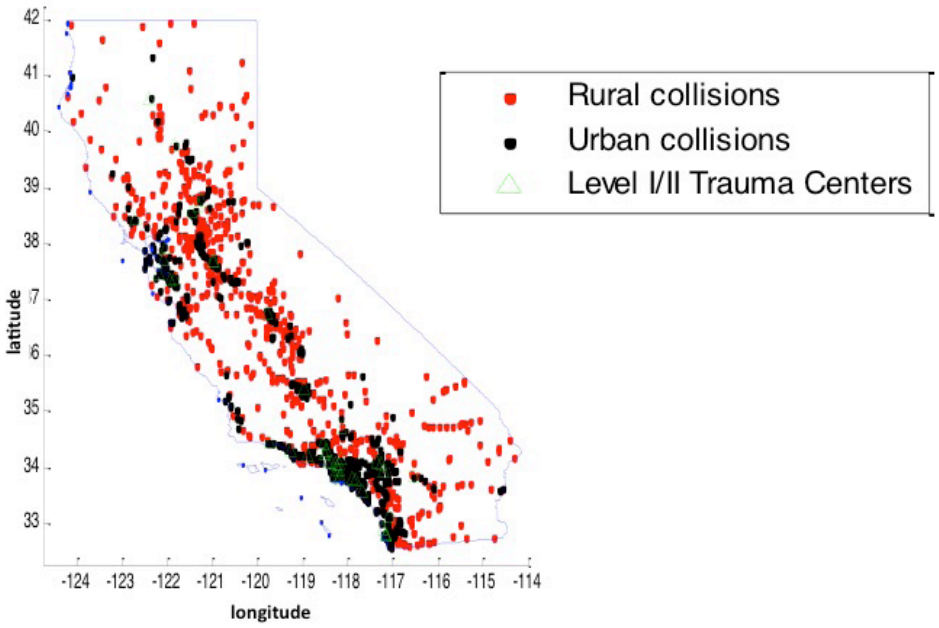
Emergency medical services involves the transport of individuals from the scene of a crash to a medical facility. A number of factors involve the quality of care for a crash victim, including how long it takes for the crash to be detected, dispatching of the right EMS team to the scene, whether the victim is taken to the appropriate type of trauma center to address the injuries sustained, and if the medical team has the right training to address the victim's injuries. One of the reasons fatalities have decreased over the last 20 years is due to the advancements in emergency services, which focuses on getting severely injured patients to a trauma center within the first hour, commonly called the "golden hour". This practice has greatly increased survival rates. Figure 18 shows the location of fatal traffic collisions in rural and urban areas and how close these crash sites were to state's trauma centers. In the towns that are close to neighboring Oregon and Nevada, the trauma center may be in another state.

Figures 19 and 20 show the distance to the trauma centers for rural and urban crashes in California. Thirty-seven percent of fatal collisions were 30 or more miles from a Level I/II trauma center in rural areas, while in urban areas only eight percent were 30 or more miles away.

Emergency Medical Services Strategies:

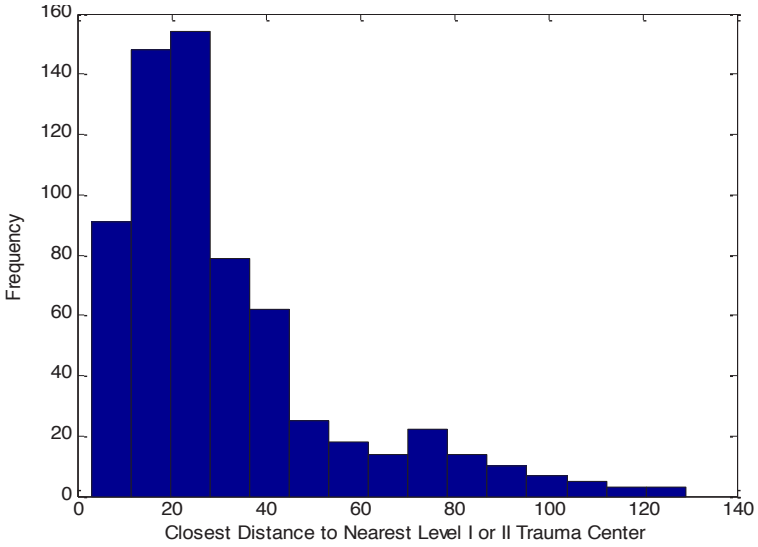
- Increase involvement by EMS leaders in the California SHSP.
- Develop strategies to improve the time to definitive care.
- Improve data from the time of the crash.
- Improve access to information to enable interoperability of communications systems between all responders to crash sites.
- Develop guidance documents to share with EMS responders to increase crash scene safety.

Figure 18 Fatal Crashes & Trauma Center Locations



Source: SWITRS (2011), Healthcare Atlas, State of California (as of November 2013), and Caltrans file with urban area polygons based on 2010 Census data

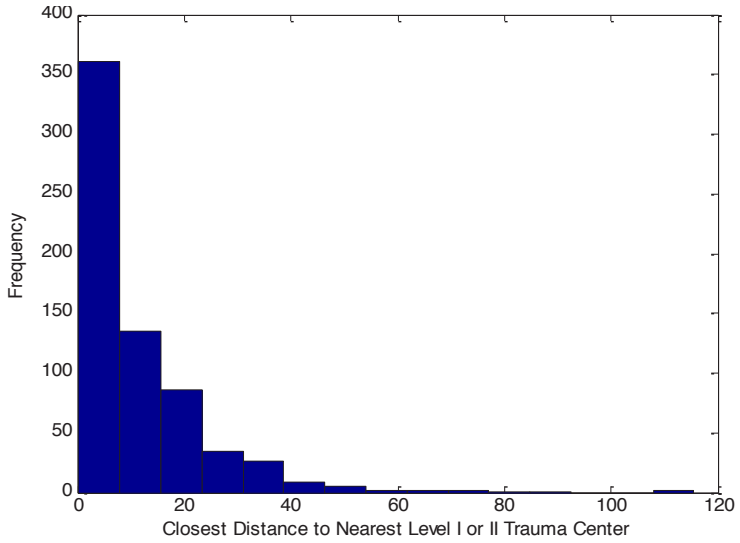
Figure 19 Rural Crashes-Distance to Trauma Center



37% of fatal collisions in rural areas were 30 miles away or further from a Level I/ II Trauma Center

Source: SWITRS (2011), Healthcare Atlas, State of California (as of November 2013), and Caltrans file with urban area polygons based on 2010 Census data

Figure 20 Urban Crashes-Distance to Trauma Center



8% of fatal collisions in urban areas were 30 miles away or further from a Level I/ II Trauma Center

Source: SWITRS (2011), Healthcare Atlas, State of California (as of November 2013), and Caltrans file with urban area polygons based on 2010 Census data

Shutterstock

Acronyms

ABC – California Department of Alcoholic Beverage Control
CalCOG – California Council of Governments
CalSTA – California State Transportation Agency
Caltrans – California Department of Transportation
CDPH – California Department of Public Health
CEAC – County Engineers Association of California
CHP - California Highway Patrol
CTP – California Transportation Plan
CSAC – California State Association of Counties
CVSP – Commercial Vehicle Safety Plan
DMV – California Department of Motor Vehicles
EMSA – Emergency Medical Services Authority
EMS – Emergency Medical Services
FHWA – Federal Highway Administration
FMCSA – Federal Motor Carrier Safety Administration
GDL – Graduated Driver License
GHG – Green House Gas
HSIP – Highway Safety Improvement Program
HSP – Highway Safety Plan
MAP-21 – Moving Ahead for Progress in the 21st Century
MPO – Metropolitan Planning Organization
MTP – Metropolitan Transportation Plan
NAAC – Native American Advisory Committee
NHTSA – National Highway Traffic Safety Administration
OTS – Office of Traffic Safety
RTPA – Regional Transportation Planning Agency
SHS – State Highway System
SHSP – Strategic Highway Safety Plan
SWOT – Strengths, Weaknesses, Opportunities, Threats
TZD – Toward Zero Deaths
VMT – Vehicle Miles Traveled

Appendix

The Economic Cost of Traffic Crashes in California

Traffic crashes cause a tremendous amount of damage and hardship in both human and economic terms. The following chart shows the economic cost of traffic related fatalities and severe injuries in each county in California. The costs are based on the figures used by the National Highway Traffic Safety Administration in their publication, The Economic and Societal Impact of Motor Vehicle Crashes, 2010, DOT HS 812 013.

County	Severe	Fatality Injury[a]	Economic Cost per County (in 2012 dollars)[b,c]
ALAMEDA	309	77	165,746,802
ALPINE	8	1	2,845,506
AMADOR	30	6	13,944,604
BUTTE	117	24	55,257,009
CALAVERAS	25	10	18,895,958
COLUSA	14	5	9,708,682
CONTRA COSTA	253	61	132,732,438
DEL NORTE	17	9	16,050,451
EL DORADO	65	23	44,764,218
FRESNO	247	118	214,629,811
GLENN	12	4	7,905,987
HUMBOLDT	82	30	57,904,487
IMPERIAL	74	32	59,424,254
INYO	31	6	14,118,406
KERN	260	128	231,440,145
KINGS	72	22	44,525,740
LAKE	47	17	32,905,237
LASSEN	25	9	17,440,867
LOS ANGELES	2,573	628	1,360,989,499
MADERA	75	29	55,232,783
MARIN	103	10	32,452,509
MARIPOSA	20	6	12,206,584
MENDOCINO	75	24	47,957,328
MERCED	109	46	85,878,595
MODOC	8	1	2,845,506

Photo courtesy of the California Highway Patrol (CHP)

Photo courtesy of the California Highway Patrol (CHP)

County	Severe	Fatality Injury[a]	Economic Cost per County (in 2012 dollars)[b,c]
MONO	10	5	9,013,474
MONTEREY	140	28	65,074,818
NAPA	59	7	20,439,951
NEVADA	49	17	33,252,841
ORANGE	686	153	341,857,044
PLACER	96	27	55,972,442
PLUMAS	29	8	16,680,984
RIVERSIDE	599	209	408,221,369
SACRAMENTO	420	110	233,056,818
SAN BENITO	27	10	19,243,562
SAN BERNARDINO	608	244	460,713,770
SAN DIEGO	856	223	473,259,740
SAN FRANCISCO	222	31	83,691,849
SAN JOAQUIN	208	62	126,366,442
SAN LUIS OBISPO	112	28	60,208,363
SAN MATEO	177	40	88,966,581
SANTA BARBARA	162	31	73,263,733
SANTA CLARA	397	87	195,592,281
SANTA CRUZ	128	11	38,252,648
SHASTA	82	27	53,539,214
SIERRA	4	4	6,515,572
SISKIYOU	36	14	26,628,143
SOLANO	109	20	48,046,230
SONOMA	156	37	80,951,467
STANISLAUS	180	44	95,308,350
SUTTER	37	8	18,071,399
TEHAMA	34	10	20,460,175
TRINITY	14	1	3,888,318
TULARE	158	69	127,861,982
TUOLUMNE	47	6	16,899,237
VENTURA	274	49	118,921,187
YOLO	45	24	42,743,270
YUBA	20	19	31,122,767
UNKNOWN	32	6	14,292,208

a California Highway Patrol. Statewide Integrated Traffic Records System (SWITRS), 2012.
b NHTSA. *The Economic and Societal Impact of Motor Vehicle Crashes,* 2010.
c United States Department of Labor, Bureau of Labor Statistics. CPI Inflation Calculator.